

EXHIBIT 25

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

Case No. 4:20-cv-03664-YGR-SVK

CHASOM BROWN, WILLIAM BYATT, JEREMY DAVIS, CHRISTOPHER CASTILLO, AND
MONIQUE TRUJILLO, INDIVIDUALLY AND ON BEHALF OF ALL OTHER SIMILARLY
SITUATED,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

EXPERT REPORT OF MICHAEL J. LASINSKI

April 22, 2022

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1. EXECUTIVE SUMMARY OF OPINIONS

1. Pursuant to the Court's Standing Order, this section includes an executive summary of each opinion to be offered.
 - *Opinion 1:* As described in Sections 7 through 9, and consistent with the work I have done in other cases, including class cases, the discovery in this case can readily be used to quantify relief sought by Plaintiffs on a class-wide basis, for both Classes and for the full Class Period.
 - *Opinion 2:* As described in Section 7, the internal analyses that Google conducted and relied upon for purposes of assessing the financial impact to Google of blocking third-party cookies by default in Chrome Incognito mode (referred to internally at Google as "[REDACTED]") provide the most appropriate and reliable basis for quantifying certain relief sought by Plaintiffs. Indeed, Google's contemporaneous analyses in this regard are consistent with the types of analyses that I would expect to perform to determine Google's unjust enrichment even in the absence of such evidence.
 - *Opinion 3:* As described in Section 7, Google's contemporaneous analyses of the financial impact to Google of blocking third-party cookies by default in Chrome Incognito mode can be adjusted to reliably quantify Google's unjust enrichment under a range of potential liability scenarios. I have therefore quantified Google's unjust enrichment attributable to the alleged wrongful conduct for the period June 1, 2016 through December 31, 2021 (the latest date for which necessary Google financial data is currently available) based on the analyses set forth in Google's Ads Impact document and other relevant inputs.
 - *Opinion 4:* As described in Section 7, my analyses of Google's unjust enrichment are segmented by Google product area (e.g., Display Ads, YouTube Ads, and Search Ads), private browsing mode (e.g., Incognito mode and Other Private Browsing Modes), revenue source (e.g., personalization or conversion tracking), and the scope of conversion tracking (e.g., conversion tracking from traffic with third-party cookies or conversion tracking from all traffic, including that which leverages first-party cookies and sitewide tagging). This segmentation is intended to assist the trier of fact in determining Google's unjust enrichment under a range of potential liability scenarios. For example, in the event it is determined that, due to the alleged wrongful conduct, Google was unjustly enriched by an amount equal to: 1) Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes within Google's Display Ads business, 2) Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes attributable to personalization and all conversion tracking within Google's YouTube Ads business, and 3) Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes attributable to all conversion tracking within Google's Search Ads business, Google's unjust enrichment would total approximately [REDACTED] during the period June 1, 2016 through December 31, 2021.¹
 - *Opinion 5:* As described in Section 8, actual damages attributable to the alleged wrongful conduct can be determined as a function of the payments necessary to incentivize an individual to knowingly relinquish the choice to keep certain browsing private and allow an organization to track all online activity. I have therefore identified and considered various indicators of both the payments that Google and other organizations have paid to individuals to track their online activity and the fees that individuals have paid to various organizations in their attempts to increase online privacy and/or avoid tracking. In my opinion, the most probative indicator is

¹ Section 7.5, Schedules 1.1, 1.2, 1.3.

derived from one aspect of the monthly compensation structure to participants in the Ipsos Screenwise Panel, a consumer research study conducted for Google by Ipsos. While compensation to Ipsos Screenwise Panel participants can vary based on numerous factors, it is my opinion that the baseline payment to participants of \$3 per month for using a Screenwise browser extension or a Screenwise meter app on a single device represents a conservative indicator of the monthly payment necessary for an individual to knowingly relinquish the choice to keep certain browsing private and allow Google to track all of their online activity, regardless of browsing mode. To calculate total actual damages for the two Classes, this \$3 monthly rate can be multiplied by the number of unique monthly private browsing instances (“UMPBI”), where a single UMPBI represents one or more pageloads in Incognito Mode or an Other Private Browsing Mode on a single device during a one-month period. The application of this \$3 monthly rate to my calculations of UMPBI yields total actual damages for the two Classes of approximately [REDACTED] during the period June 1, 2016 through December 31, 2021.²

- *Opinion 6:* As described in Section 9, I understand that Plaintiffs also seek statutory damages in connection with certain of the claims detailed in their Third Amended Complaint. I am not offering an opinion as to any applicable legal standard or whether such damages should be calculated by the Court or the jury, and I have not investigated or made any determination regarding the relevant damages rate. I have instead evaluated four potential bases to which an appropriate damages rate could be applied in calculating statutory damages for the two Classes for the Class Period.
- *Opinion 7:* As described in Sections 7 through 9, while my current calculations of unjust enrichment, actual damages, and the potential bases for calculating statutory damages cover the period June 1, 2016 through December 31, 2021, I could readily update these calculations to cover subsequent periods through the date of trial. Relatedly, to the extent that the trier of fact determines that the calculation of unjust enrichment, actual damages, or statutory damages should start on a date later than June 1, 2016, the calculations attached to this report can be readily modified to reflect that alternative period.
- *Opinion 8:* As described in Section 10, my analyses can be readily used as common proof in part because they can be adjusted to calculate and assess unjust enrichment, actual damages, and statutory damages for different periods of time and Classes (or subclass(es)) depending on any rulings by the Court and findings by a jury. All of these calculations can be readily apportioned across the two Classes and among Class members and, if required and relevant, for only those Class members in California.

2. QUALIFICATIONS / BACKGROUND

2. I am Michael J. Lasinski, a Senior Managing Director at Ankura Consulting Group (“Ankura”) and head of the Intellectual Property Group. Previously, I was the founding member of 284 Partners, LLC (“284 Partners”), a professional services firm focused on IP valuation, litigation consulting, IP acquisition and licensing strategy, and transactional services. Over the past twenty-seven years, I have assisted clients, including corporations, law firms, government entities, and investors, in understanding and evaluating the financial aspects of intellectual property.

² Schedule 16.1.

3. My consulting practice has focused on the financial aspects of intellectual property since 1995. I have valued intellectual property and businesses in the context of licensing, sales, mergers, acquisitions, investments, tax matters, and litigation, as well as many other contexts. During my professional career, I have completed hundreds of valuations of intellectual property assets. I have spoken on the topic of intellectual property valuation, litigation, licensing, and tax matters throughout the U.S. and internationally.
4. I am a past President of the Licensing Executives Society United States and Canada (“LES”). LES is one of the country’s largest intellectual property licensing trade organizations. I am a past Division Chair of the American Bar Association’s IP Section. I am a former Chair of the Valuation and Taxation Committee of LES and a former Vice-Chair of the Intellectual Property Owners Association’s Valuation and Taxation Committee. I have also been named one of the World’s 300 Leading IP Strategists by Intellectual Asset Management.
5. I have been retained to provide expert testimony in other federal, state, tax, and arbitration proceedings. I have also been retained by both taxpayers and the IRS to determine intellectual property value and royalty rates in transfer pricing and other tax-related transactions. In addition, I was retained by a Federal Monitor to set royalty rates for a company that was subject to a deferred prosecution agreement from the U.S. Department of Justice. A list of cases in which I have provided expert testimony is provided in my curriculum vitae (attached as Appendix A of this report).
6. I hold a Bachelor of Science in Electrical Engineering (Summa Cum Laude) and a Master of Business Administration (High Honors) from the University of Michigan. I am a Certified Public Accountant (“CPA”) licensed in the state of Illinois. I am also Certified in Financial Forensics (“CFF”) by the American Institute of Certified Public Accountants, and I am a Certified Licensing Professional (“CLP”) initiated by the LES.
7. Ankura is being compensated for my work in this matter at a rate of \$695 per hour. Ankura is being compensated for the work of other Ankura consultants assisting me on this matter (as is my common practice, working at my direction and with my supervision) at hourly rates of less than \$695. No part of my compensation, or that of Ankura, depends on the outcome of this litigation.
8. I understand that I will be excluded from any Class recovery in this case.³ Before I was contacted about being retained as an expert in this litigation, I had used certain private browsing modes to browse online, and I was not previously aware that Google would collect and store information from my private browsing activities on non-Google websites while I was not signed into any Google account. I only learned of that in connection with this litigation.

3. STATEMENT OF LIMITATIONS REGARDING THE USE OF THIS REPORT

9. This report was prepared in connection with Case No. 4:20-cv-03664-YGR-SVK. This report may not be used for any other purpose without the express written consent of Ankura. Moreover, this report contains proprietary information designated as “CONFIDENTIAL” and “HIGHLY CONFIDENTIAL – ATTORNEYS’ EYES ONLY” under a Stipulated Protective Order entered in the United States District Court for the Northern District of California. Accordingly, no part of this report or its contents may be published without adherence to the applicable legal standards governing such publications.

³ Third Amended Complaint, March 18, 2022, pp. 55-56.

4. ASSIGNMENT / ASSUMPTIONS

10. I was retained with Ankura by counsel for the Plaintiffs in this action (“Counsel”) to provide expert analysis and, if requested, expert testimony regarding the measures of monetary relief that may be appropriate if liability is found against Google LLC (“Google”) for the alleged wrongful conduct described in Plaintiffs’ Third Amended Complaint.⁴
11. My assignment in this matter includes assessing the feasibility of identifying and quantifying various measures of monetary relief tied to Plaintiffs’ claims, including that which I have described below as Google’s unjust enrichment, Plaintiffs’ actual damages, and statutory damages.
12. My investigations in this matter began with the necessary assumption that liability would be found against Google for the alleged wrongful conduct. This assumption does not imply that such liability exists, nor does it imply that I have been engaged to provide opinions about liability issues.
13. Based on the Third Amended Complaint and instructions from Counsel, I assume the following:
 - The class period began on June 1, 2016 and is ongoing (the “Class Period”).
 - There are two classes based on whether the individual used Chrome Incognito (“Incognito mode”) or a non-Chrome private browsing mode (the “Classes”).⁵
 - The non-Chrome private browsing modes at issue are limited to those offered on the Safari and Edge/Internet Explorer browsers (the “Other Private Browsing Modes”).⁶

⁴ As detailed in the Third Amended Complaint, Plaintiffs contend that Google’s wrongful conduct includes violations of the Federal Wiretap Act, the California Invasion of Privacy Act (“CIPA”), the Comprehensive Computer Data Access and Fraud Act (“CDAFA”), the California Constitution (invasion of privacy), intrusion upon seclusion, California Unfair Competition Law (“UCL”), and breach of contract. As also detailed therein, “Plaintiffs” include Chasom Brown, William Byatt, Christopher Castillo, Monique Trujillo, and Jeremy Davis. Third Amended Complaint, March 18, 2022, pp. 58, 61, 64 – 65, 68 – 70.

⁵ As detailed in the Third Amended Complaint, “Class 1” is defined as “All Chrome browser users with a Google account who accessed a non-Google website containing Google tracking or advertising code using such a browser and who were (a) in ‘Incognito mode’ on that browser and (b) were not logged into their Google account on that browser, but whose communications, including identifying information and online browsing history, Google nevertheless intercepted, received, or collected from June 1, 2016 through the present. “Class 2” is defined as “All non-Chrome browser users with a Google account who accessed a non-Google website containing Google tracking or advertising code using any such browser and who were (a) in ‘private browsing mode’ on that browser, and (b) were not logged into their Google account on that browser, but whose communications, including identifying information and online browsing history, Google nevertheless intercepted, received, or collected from June 1, 2016 through the present.” Third Amended Complaint, March 18, 2022, p. 55.

⁶ The private browsing mode offered on the Firefox browser is excluded from Other Private Browsing Modes as the term is used in this report. I understand from discussions with Mr. Hochman that Mozilla took various steps to block Google tracking beacons within the Firefox browser. While I understand from Mr. Hochman that Google may have been intermittently successful in its attempts to circumvent Mozilla’s efforts in this regard, I have not attempted to quantify unjust enrichment, actual damages, or statutory damages associated with the private browsing mode offered on the Firefox browser.

5. INFORMATION CONSIDERED

14. In connection with my work in this matter, I, or Ankura personnel working at my direction, have reviewed and assessed the following types of information:

Documents produced by Google, including:

- Google internal analyses, memoranda, and presentations;
- Google internal correspondence;
- Google financial records; and
- Google User Metrics Analysis (“UMA”) data.

Publicly available information, including:

- Company websites;
- Corporate financial filings; and
- Publicly available articles, press releases, and similar materials.

Deposition testimony of Google personnel and corporate designees (with exhibits), including:

- Sammit Adhya, Product Manager, Privacy and Data Protection Office;⁷
- Jesse Adkins, Senior Product Manager, Search Ads Syndication Team;⁸
- Audrey An, Product Manager;⁹
- Glenn Berntson, Engineering Director, Ad Manager;¹⁰
- Deepti Bhatnagar, Director of Product Management;¹¹
- Stephen Chung, Product Manager, Google Analytics;¹²
- Ramin Halavati, Senior Software Engineer;¹³
- Gregory Lon Fair, Product Management Lead, Google’s Privacy Products;¹⁴
- Steve Ganem, Group Product Manager, Google Analytics;¹⁵
- Michael Kleber, Principal Software Engineer;¹⁶
- Bert Leung, Software Engineer;¹⁷
- Chris Liao, Software Engineer, Google Ads;¹⁸
- Mandy Liu, Software Engineer, Google Ads;¹⁹
- Abdelkarim Mardini, Product Manager, Chrome Trust and Safety;²⁰

⁷ Deposition of Sammit Adhya, November 19, 2021, p. 15.

⁸ Deposition of Jesse Adkins, April 14, 2021, pp. 8 – 9.

⁹ Deposition of Audrey An, March 22, 2022; <https://www.linkedin.com/in/audreyan/> (accessed April 12, 2022).

¹⁰ Deposition of Glenn Berntson, June 16, 2021, pp. 17 – 18; Deposition of Glenn Berntson, March 18, 2022.

¹¹ Deposition of Deepti Bhatnagar, February 17, 2022, p. 15.

¹² Deposition of Stephen Chung, March 10, 2022, p. 13.

¹³ Deposition of Ramin Halavati, January 18, 2022, p. 19.

¹⁴ Deposition of Gregory Lon Fair, December 14, 2021, pp. 23, 36; Deposition of Gregory Lon Fair, January 6, 2022.

¹⁵ Deposition of Steve Ganem, February 11, 2022, pp. 12 – 13; Deposition of Steve Ganem, March 23, 2022, p. 11.

¹⁶ Deposition of Michael Kleber, January 14, 2022, p. 9; Deposition of Michael Kleber, March 18, 2022.

¹⁷ Deposition of Bert Leung, March 4, 2022; <https://www.linkedin.com/in/bert-leung-159b5733/> (accessed March 15, 2022).

¹⁸ Deposition of Chris Liao, December 2, 2021, pp. 12 – 13; Deposition of Chris Liao, December 3, 2021.

¹⁹ Deposition of Mandy Liu, March 8, 2022, p. 8; <https://www.linkedin.com/in/yingdi-liu-cs/> (accessed March 22, 2022).

²⁰ Deposition of Abdelkarim Mardini, November 24, 2021, pp. 248, 257 – 258; Deposition of Abdelkarim Mardini, November 23, 2021.

- Rory McClelland, Product Manager, Chrome Browser Privacy;²¹
- David Monsees, Senior Product Manager, Display Ads / Search / Knowledge;²²
- Christopher Palmer, Software Engineer;²³
- Adrienne Porter Felt, Director of Engineering;²⁴
- Brian Rakowski, Vice President of Product Management;²⁵
- Caitlin Sadowski, Software Engineering Manager;²⁶
- Justin Schuh, Engineering Director;²⁷
- Martin Shelton, User Experience Researcher;²⁸
- Sonal Singhal, Senior Finance Manager for Google Photos and Chrome Browser;²⁹
- Alexei Svitkine, Senior Staff Software Developer, Technical Lead, UMA;³⁰ and
- Troy Walker, Engineering Director for Google Screenwise Program.³¹

Written discovery, including:

- Google's responses to written discovery served by Plaintiffs.

Plaintiffs' Expert Reports:

- Expert Report of Jonathan E. Hochman;³²
- Expert Report of Mark Keegan;³³
- Expert Report of Bruce Schneier;³⁴ and
- Expert Report of Steven Weisbrot.³⁵

15. My staff and I were also provided access to a document platform where we were able to independently search for and access any and all documents produced by Google in this case.
16. I have also discussed various aspects of this matter with testifying expert Mr. Jonathan Hochman and consulting experts Dr. Lillian Dai and Mr. Christopher Thompson.
17. My consideration of such information is consistent with my standard practice and also the practices of my peers who evaluate financial damages in commercial litigation. The documents I have relied upon in developing my opinions are identified in this report, the attached schedules, and the attached Appendix B. This report includes all information required under Federal Rules of Civil Procedure 26(a)(2)(B). The balance of this report contains a summary of my current opinions and bases for those opinions.

²¹ Deposition of Rory McClelland, February 12, 2022, p. 6.

²² Deposition of David Monsees, April 9, 2021, pp. 29 – 30.

²³ Deposition of Christopher Palmer, January 5, 2022, p. 14.

²⁴ Deposition of Dr. Adrienne Porter Felt, November 16, 2021, p. 15; Deposition of Dr. Adrienne Porter Felt, March 17, 2022.

²⁵ Deposition of Brian Rakowski, August 19, 2021, p. 14.

²⁶ Deposition of Caitlin Sadowski, March 10, 2022, pp. 8 – 9.

²⁷ Deposition of Justin Schuh, January 6, 2022, p. 15; Deposition of Justin Schuh, January 7, 2022.

²⁸ Deposition of Martin Shelton, March 2, 2022, p. 28.

²⁹ Deposition of Sonal Singhal, March 10, 2022, p. 8.

³⁰ Deposition of Alexei Svitkine, October 4, 2021, p. 11.

³¹ Deposition of Troy Walker, March 24, 2022, pp. 7 – 8.

³² Expert Report of Jonathan E. Hochman, April 15, 2022 (the "Hochman Report").

³³ Expert Report of Mark Keegan, April 15, 2022 (the "Keegan Report").

³⁴ Expert Report of Bruce Schneier, April 15, 2022 (the "Schneier Report").

³⁵ Expert Report of Steven Weisbrot, April 15, 2022 (the "Weisbrot Report").

18. It is important to note that the opinions and conclusions contained in this report are based on the information that has been made available to me to date. I understand that additional information relevant to the determination of damages may become available subsequent to the issuance of this report. Accordingly, my opinions and conclusions contained herein are subject to change based on further developments in, or relevant to, this case, such as additional discovery, the testimony of other fact or expert witnesses, and/or rulings of the Court. Additionally, I may prepare demonstrative exhibits to help me explain or illustrate concepts contained in this report at trial.

6. BACKGROUND

19. For the purpose of understanding the current matter, I provide below certain background information regarding Google, Chrome, Incognito, [REDACTED], Google's analyses of relevant modifications to its data collection and monetization practices, and potentially available measures of monetary relief.

6.1. Google

20. Google is a wholly-owned subsidiary of Alphabet and the largest business within the Alphabet collection of businesses.³⁶ From a financial reporting perspective, Google is comprised of two segments: Google Cloud and Google Services.³⁷ The Google Cloud segment generates revenue from fees received for the Google Cloud Platform, which enables developers to build, test, and deploy applications on Google's scalable infrastructure, and through Google Workspace cloud-based collaboration tools for enterprises.³⁸ The Google Services segment covers core products and platforms including those which Google categorizes as Ads, Android, Chrome, Gmail, Search, and YouTube.³⁹
21. The Google Services segment generates revenues primarily by delivering advertising that appears on Google Search ("Search Ads"), YouTube ("YouTube Ads"), and Google Network properties ("Display Ads").⁴⁰ In its Form 10-K for the fiscal year ended December 31, 2021, Google

³⁶ Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 4. See also, "G is for Google" per Alphabet at <https://abc.xyz/> (accessed March 14, 2022).

³⁷ Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 4. Google also classifies certain of its pursuits as "Moonshots," which Google identifies as "high risk, high reward" projects. See Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 5. Notwithstanding how the term "Google services" has been used in this litigation, this report uses the term "Google Services" in the context of Google's financial disclosures.

³⁸ Alphabet Form 10-K for the fiscal year ended December 31, 2021, pp. 6 – 7.

³⁹ Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 5.

⁴⁰ Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 6. It appears that the products and services Google characterizes as "Google Network properties" in its public financial reporting are often characterized as "Display" or "Display Ads" in Google's internal business documents. This is evidenced by the similarity between Google's publicly reported revenues from "Google Network properties" and its internal references to "Display" revenues. See, for example, Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 60; GOOG-CABR-03635725, tabs "Display – conversion" and "Display – p13n." Relatedly, in the publicly available online resources for Google Ads, Google represents that "With Google Ads, you may serve your ads on the Google Display Network, a collection of over two million websites that reach over 90% of Internet users across the globe." See, for example, "Reach a larger or new audience with Google Display Network targeting" per Google Ads Resources at https://ads.google.com/intl/en_id/home/resources/reach-larger-new-audiences/ (accessed March 23, 2022).

represented that more than 80% (*i.e.*, approximately \$209.5 billion) of its total 2021 revenues (*i.e.*, approximately \$257.6 billion) were generated from online advertising.⁴¹

22. Google generates advertising revenues from its own platforms by selling advertisement placements on Google Search results pages, as well as within users' Gmail accounts, in the Google Play marketplace, and on Google Maps search result pages.⁴² Google also generates revenues through the placement of advertisements on YouTube search results pages, from video advertisements users view prior to, during, or after viewing a selected YouTube video, and from embedded YouTube video links appearing on non-Google webpages.⁴³ Google also generates revenues when advertisers place ads on non-Google webpages that comprise "Google Network properties."⁴⁴ In its online resources for Google Ads, Google publicly describes the "Google Display Network" as "a collection of over two million websites that reach over 90% of Internet users across the globe."⁴⁵ These network members display ads on their properties.⁴⁶
23. Google explains in its SEC filings that it generates revenues by serving the "right ads at the right time"⁴⁷ and, in its online product support pages, Google explains that its targeting methods allow advertisers to "reach people based on who they are, their interests and habits, what they're actively researching, or how they've interacted with your business."⁴⁸ Google also describes its ad targeting as based on one of two main categories:
 - Audience Targeting: Advertisements are targeted based on specific information about individuals including their interests and habits, what they are actively researching, and information about prior interaction with ads, webpages, or apps.⁴⁹ Audience targeting, which may also be referred to as behavioral advertising, relies on personal information from users.⁵⁰ Google's use of audience targeting allows advertisers to align ad campaigns to the users' observed preferences, thereby increasing the effectiveness of the advertisement.⁵¹

⁴¹ Alphabet Form 10-K for the fiscal year ended December 31, 2021, pp. 10, 33.

⁴² GOOG-CABR-04072530 – 538 at 532.

⁴³ GOOG-CABR-04072530 – 538 at 532. See also, "Ads on embedded videos" at "YouTube Help" per <https://support.google.com/youtube/answer/132596?hl=en> (accessed March 14, 2022) and "Bring your story to life with Video ads" at <https://ads.google.com/home/campaigns/video-ads/> (accessed March 14, 2022).

⁴⁴ "Google AdSense – Home" per Google AdSense at <https://www.google.com/adsense/start/> (accessed March 15, 2022). See also Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 6.

⁴⁵ "Reach a larger or new audience with Google Display Network targeting" per Google Ads Resources at https://ads.google.com/intl/en_id/home/resources/reach-larger-new-audiences/ (accessed March 23, 2022).

⁴⁶ GOOG-CABR-04596471 – 535 at 479;" Google AdSense – Home" per Google AdSense at <https://www.google.com/adsense/start/> (accessed March 15, 2022).

⁴⁷ Alphabet Form 10-K for the fiscal year ended December 31, 2021, p. 6.

⁴⁸ "About audience targeting" per Google Ads Help at <https://support.google.com/google-ads/answer/2497941?hl=en> (accessed March 15, 2022).

⁴⁹ "Targeting your ads" per Google Ads Help at <https://support.google.com/google-ads/answer/1704368?hl=en> (accessed March 15, 2022).

⁵⁰ "Behavioral targeting" per Display & Video 360 Help at <https://support.google.com/displayvideo/answer/2879688?hl=en> (accessed March 14, 2022) and "Targeting your ads" per Google Ads Help at <https://support.google.com/goog-ads/answer/1704368?hl=en> (accessed March 15, 2022).

⁵¹ "Targeting your ads" per Google Ads Help at <https://support.google.com/goog-ads/answer/1704368?hl=en> (accessed March 15, 2022).

- Content Targeting: Advertisements are targeted based on topics, relevant site placement, and specific identified keywords.⁵² Content targeting relies on the context surrounding the webpages a user is visiting in order to serve advertisements to said user.⁵³
24. Google is financially incentivized to show ads that are personalized for the user.⁵⁴ To offer these personalized advertisements – and therefore maximize Google’s revenue – Google collects, stores, and uses large amounts of users’ data.⁵⁵ Google has produced documents describing [REDACTED]
[REDACTED]⁵⁶ These tracking methods work together across users’ devices to provide Google with a detailed picture of each user’s web activity.
25. Google is also financially incentivized to track “conversions,” which Google publicly describes as a tool that shows advertisers “what happens after a customer interacts with your ads – whether they purchased a product, signed up for your newsletter, called your business, or downloaded your app.”⁵⁷ Specifically, Google notes that, “when a customer completes an action that you’ve defined as valuable, these customer actions are called conversions.”⁵⁸ Advertisers can choose to finance their campaigns based on conversions, paying Google “when customers convert on [the advertiser’s] website or app.”⁵⁹ Google also uses conversion tracking to improve other aspects of its business.⁶⁰ For example, certain features including automated bidding and smart pricing rely on conversion tracking data to improve their quality and accuracy.⁶¹

6.2. Chrome

26. Chrome is a Google web browser.⁶² Released in 2008, Google’s Chrome browser became the world’s most popular browser by the summer of 2012.⁶³ According to data from GS Statcounter (“Statcounter”), a web analytics provider referenced in various Google internal documents,⁶⁴

⁵² “Targeting your ads” per Google Ads Help at <https://support.google.com/google-ads/answer/1704368?hl=en> (accessed March 15, 2022).

⁵³ “Targeting your ads” per Google Ads Help at <https://support.google.com/google-ads/answer/1704368?hl=en> (accessed March 15, 2022).

⁵⁴ GOOG-CABR-05150938 – 1024 at 017.

⁵⁵ See, for example, GOOG-CABR-05263826 – 881 at 875.

⁵⁶ See, for example, GOOG-CABR-04120396 – 435 at 417, 421; GOOG-CABR-03695549 – 618 at 573.

⁵⁷ “About conversion tracking” per Google Ads Help at <https://support.google.com/google-ads/answer/1722022?hl=en> (accessed March 14, 2022); “Use pay for conversions in Display campaigns” per Google Ads Help at <https://support.google.com/googleads/answer/7528254?hl=en> (accessed March 15, 2022).

⁵⁸ “About conversion tracking” per Google Ads Help at <https://support.google.com/google-ads/answer/1722022?hl=en> (accessed March 14, 2022).

⁵⁹ “Use pay for conversions in Display campaigns” per Google Ads Help at <https://support.google.com/google-ads/answer/7528254?hl=en> (accessed March 15, 2022).

⁶⁰ “How Google uses conversion event data” per Google Ads Help at https://support.google.com/google-ads/answer/93148?hl=en&ref_topic=3119146 (accessed March 15, 2022).

⁶¹ “How Google uses conversion event data” per Google Ads Help at https://support.google.com/google-ads/answer/93148?hl=en&ref_topic=3119146 (accessed March 15, 2022).

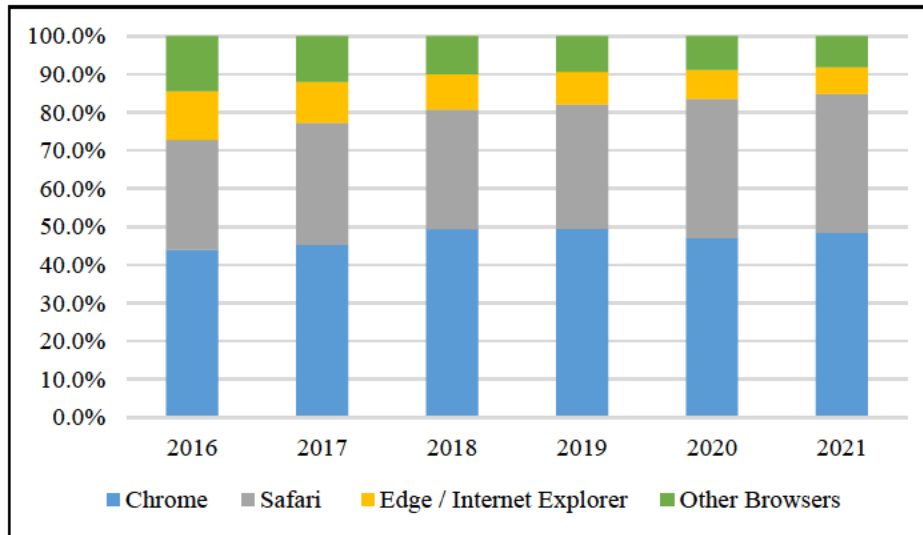
⁶² “A fresh take on the browser” per Google Official Blog at <https://googleblog.blogspot.com/2008/09/fresh-take-on-browser.html> (accessed February 18, 2022).

⁶³ GOOG-BRWN-00653907, tab “Browser Global Share”; GOOG-BRWN-00792629 – 686 at 634.

⁶⁴ See, for example, GOOG-BRWN-00653907, tabs “Browser Global Share,” “Browser Share by Country”; GOOG-BRWN-00792629 – 686 at 633.

Chrome held the largest share of the U.S. browser market as measured by pageviews throughout the Class Period.⁶⁵

Figure 1
U.S. Browser Market Share per Statcounter: 2016 - 2021⁶⁶



27. Google internally describes its Chrome browser as a “critical part of Google’s business” that is “exceptionally profitable.”⁶⁷ Users browsing in Chrome are also inclined to search, email, and perform other web tasks with Google.⁶⁸ These same Chrome users are served advertisements that generate revenues for Google.⁶⁹ This relationship is illustrated in a February 2020 Google internal presentation entitled “Why Chrome Matters to Google,” which notes that Chrome [REDACTED]

⁶⁵ See, for example, “Browser Market Share United States of America” per Statcounter at <https://gs.statcounter.com/browser-market-share/all/united-states-of-america> (accessed March 15, 2022) and “Browser Market Share Worldwide” per Statcounter at <https://gs.statcounter.com/browser-market-share> (accessed March 15, 2022). See also Schedule 17.7.

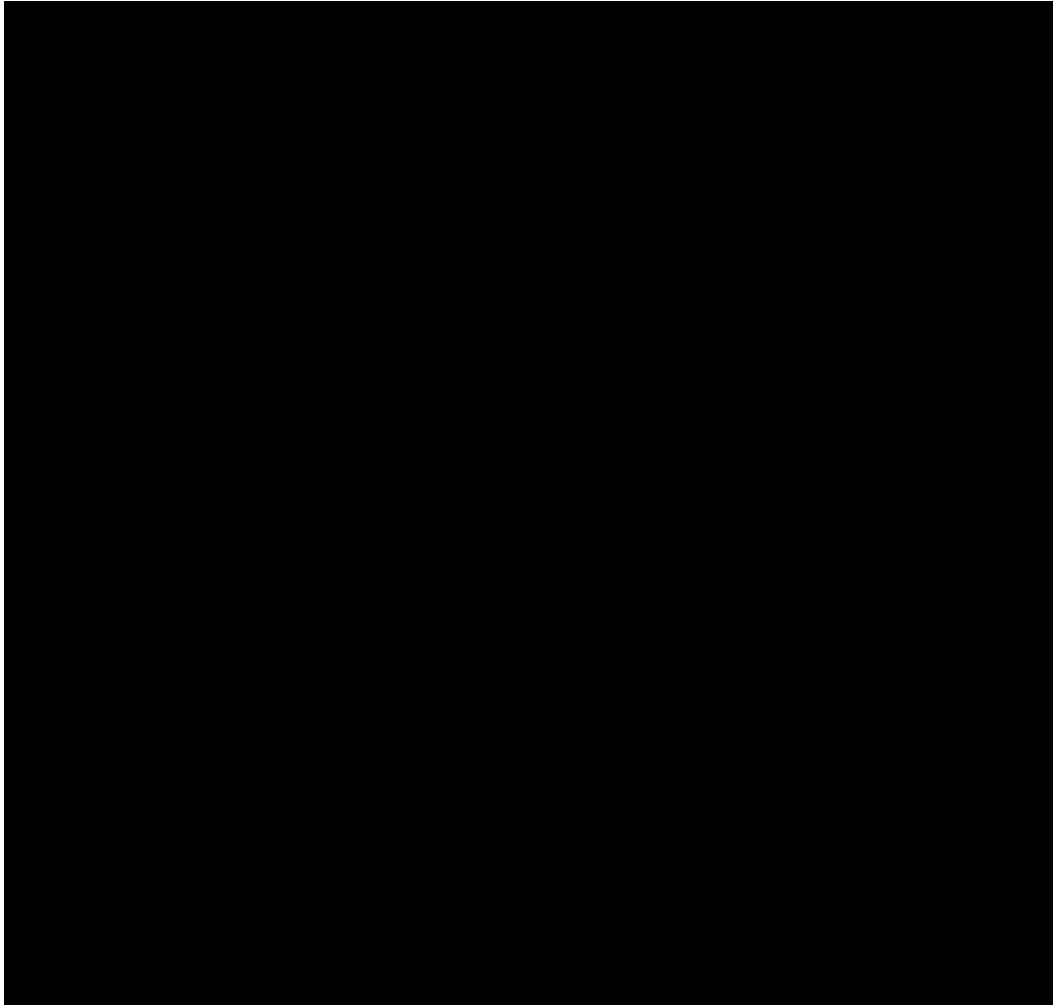
⁶⁶ Schedule 17.7.

⁶⁷ GOOG-CABR-04404345 – 377 at 347, 349.

⁶⁸ GOOG-CABR-04404345 – 377 at 351 and 373.

⁶⁹ GOOG-CABR-04404345 – 377 at 351 and GOOG-CABR-04406227-235 at 228.

Figure 2
Google Internal Presentation – Why Chrome Matters to Google? – February 2020⁷⁰



6.3. Incognito & [REDACTED]

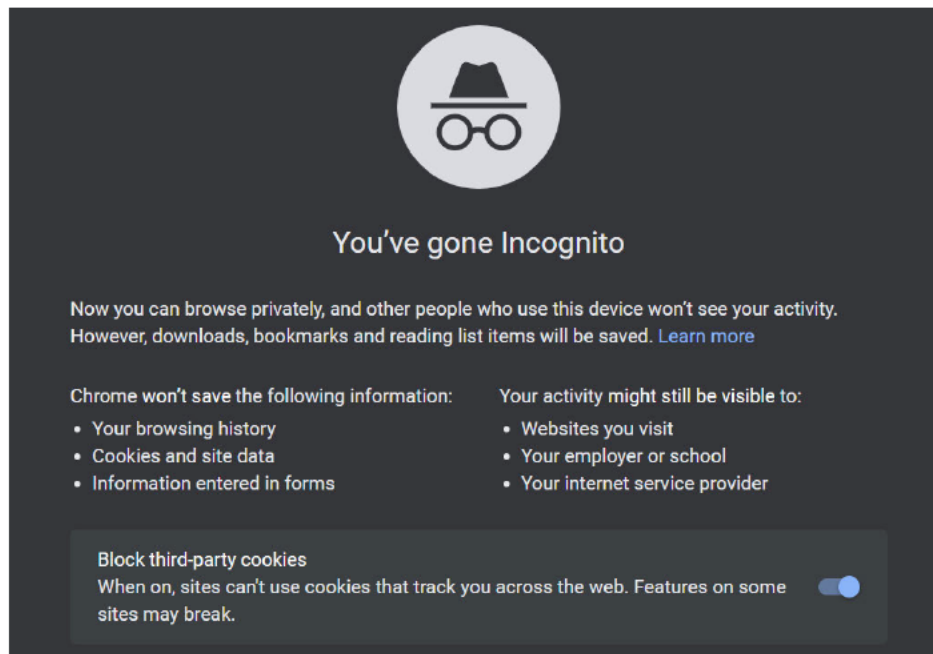
28. Within Chrome, Google has offered what it describes as a “private browsing” option called Incognito (or “Incognito mode”).⁷¹ Google characterizes Incognito as a method by which to browse the web privately using Chrome and as one of its “most popular privacy controls since it launched with Chrome in 2008.”⁷² Incognito mode can be selectively enabled by Chrome browser users. Once Incognito is enabled, a new browsing session is created and the user is notified via the Incognito “New Tab Page” (“NTP”) that the user has “gone Incognito”:

⁷⁰ GOOG-CABR-04404345 – 377 at 347, 349.

⁷¹ Third Amended Complaint, March 18, 2022, p. 14.

⁷² See, for example, Google Privacy Policy at <https://policies.google.com/privacy> (accessed March 22, 2022); “Data Privacy Day: seven ways we protect your privacy” per <https://blog.google/technology/safety-security/data-privacy-day-seven-ways-we-protect-your-privacy/> (accessed March 22, 2022).

Figure 3
Google Incognito New Tab Page



29. Google has recently described Incognito as “a pillar of proof that we care about privacy,” “one of the top tools to demonstrate that ‘Google respects your privacy,’” and “one of the most impactful proof points for demonstrating Google respects user privacy.”⁷³ Google also describes Incognito mode as a method through which users are able to gain “control over their data” and “support sensitive activities.”⁷⁴ With respect to such “sensitive activities,” a March 2020 Google internal presentation entitled “Incognito mode, Awareness and Landscape” represents that [REDACTED] [REDACTED].⁷⁵
30. In May 2020, Google launched new tools and redesigned privacy and security settings within Chrome.⁷⁶ This launch included a feature that is internally referenced as “[REDACTED]”⁷⁷ and which blocked third-party cookies within Incognito mode by default.⁷⁸ In a May 19, 2020 Google blog post entitled “More intuitive privacy and security controls in Chrome,” Google publicly described this feature as follows:

⁷³ GOOG-BRWN-00163550 – 732 at 557; GOOG-BRWN-00156752 – 824 at 761; GOOG-BRWN-00154707 – 763 at 713.

⁷⁴ GOOG-BRWN-00478023 – 084 at 028 and 031.

⁷⁵ GOOG-CABR-04431207 – 271 at 214.

⁷⁶ “More intuitive privacy and security controls in Chrome” per Google – The Keyword at <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/> (accessed March 15, 2022).

⁷⁷ GOOG-CABR-04324934 – 944 at 934; GOOG-CABR-04820567 – 602 at 577.

⁷⁸ GOOG-CABR-04324934 – 944 at 934; “More intuitive privacy and security controls in Chrome” per Google – The Keyword at <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/> (accessed March 15, 2022).

It's easier to manage cookies. You can choose if and how cookies are used by websites you visit, with options to block third-party cookies in regular or Incognito mode, and to block all cookies on some or all websites.

...

In Incognito mode, where people come for a more private browsing experience, Chrome doesn't save your browsing history, information entered in forms or browser cookies. While we continue to work on our long-term effort to make the web more private and secure with Privacy Sandbox, we want to strengthen the Incognito protections in the meantime. In addition to deleting cookies every time you close the browser window in Incognito, we will also start blocking third-party cookies by default within each Incognito session and include a prominent control on the New Tab Page. You can allow third-party cookies for specific sites by clicking the "eye" icon in the address bar. This feature will gradually roll out, starting on desktop operating systems and on Android.⁷⁹

31. As indicated in an internal presentation entitled "Google – Some info for privacy," the update to block third-party cookies within Incognito by default followed modifications to block third-party cookies on competitive browsers such as Safari, Firefox, and Edge/Internet Explorer.⁸⁰

Figure 4



32. As it relates to the alleged wrongful conduct, I understand from my discussions with Mr. Hochman that Google's [REDACTED] launch represented little more than a superficial cessation of Google's alleged wrongful conduct and that the blocking of third-party cookies by default

⁷⁹ "More intuitive privacy and security controls in Chrome" per Google – The Keyword at <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/> (accessed March 15, 2022). Emphasis added.

⁸⁰ GOOG-CABR-04820567 – 602 at 577. While undated, this presentation indicates that the "Current / Near Future" period starts in September 2019.

⁸¹ GOOG-CABR-04820567 – 602 at 577.

within Incognito affords Incognito users with a negligible amount of incremental privacy.⁸² Indeed, I understand from Mr. Hochman that, even after the [REDACTED] launch, Google has continued tracking private browsing users with first-party cookies in conjunction with sitewide tagging.⁸³ Google described sitewide tagging in an August 2018 post to the Google Ads Help page entitled “Make every conversion count with sitewide tagging.”⁸⁴ Within this post, Google noted:

The best way to measure online conversions is to use tools that set cookies in the same domain as your site (known as first-party cookies). The tags for such tools should be placed sitewide, on every page of your site, to effectively measure and optimize your digital marketing investment. It’s also recommended to use a dynamic library like gtag.js (also known as the global site tag) to maintain flexibility as your needs, and the industry, evolve.

...

*We recommend you update your tagging as soon as possible to preserve insights. As measurement using third-party cookies becomes less accurate over time, you might see a decrease in overall conversions, conversion rates, and conversion values. This doesn’t mean that your actual conversion volume is decreasing, it only means that you’re losing visibility. The quicker you act, the more insight you can preserve.*⁸⁵

6.4. Google’s Analyses of Relevant Modifications to Its Data Collection and Monetization Practices

33. The available record includes several indications of Google personnel investigating the economic impact to Google of various modifications to its practices of collecting and monetizing user data from private browsing. I identify and describe certain of these indications below.

May 2020 “Ads Impact” Document⁸⁶

34. In a May 2020 Google document entitled “Ads Impact and Response from [REDACTED] and ‘SameSite & Secure’ Launches” (the “Ads Impact document”), a cross section of Google personnel summarized the results of internal analyses regarding the “anticipated impact to Search Ads, YouTube Ads, and Display Ads” from the then-pending release of [REDACTED].⁸⁷ According to deposition testimony from Mr. Rory McClelland, a former product manager for Chrome browser privacy, the purpose of the Ads Impact document was to allow Google personnel to factor the revenue impact of [REDACTED] into the financial planning cycles for Google Ads.⁸⁸
35. As detailed in the Ads Impact document and summarized in the figure below, Google personnel determined that the [REDACTED] implementation (*i.e.*, the blocking of third-party cookies by default within Incognito) would cause an approximate [REDACTED] in Google’s

⁸² Discussions with Mr. Hochman.

⁸³ Discussions with Mr. Hochman.

⁸⁴ “Make every conversion count with sitewide tagging” per Google Ads Help at <https://support.google.com/google-ads/answer/9094505?hl=en> (accessed March 22, 2022).

⁸⁵ “Make every conversion count with sitewide tagging” per Google Ads Help at <https://support.google.com/google-ads/answer/9094505?hl=en> (accessed March 22, 2022).

⁸⁶ GOOG-CABR-04324934 – 944.

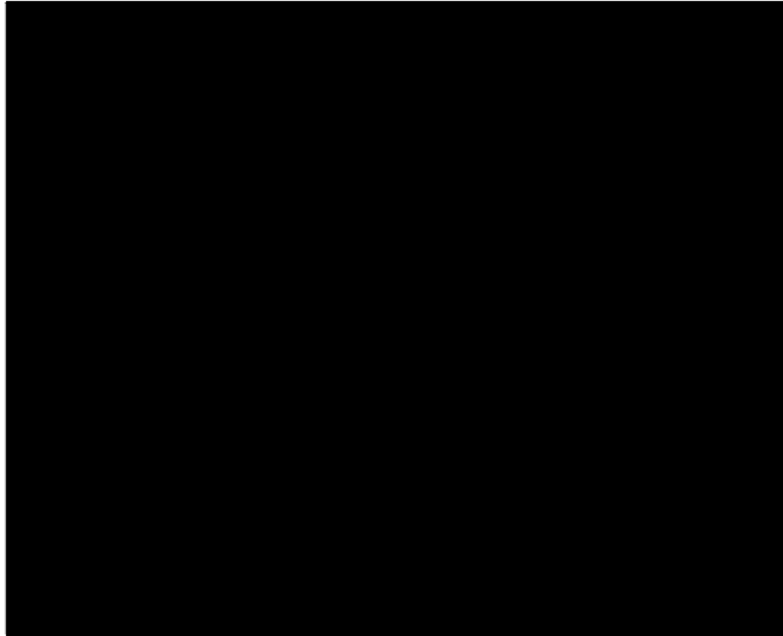
⁸⁷ GOOG-CABR-04324934 – 944 at 934.

⁸⁸ Deposition of Rory McClelland, February 18, 2022, pp. 6, 182-186.

worldwide Search Ads, YouTube Ads, and Display Ads revenue during the remaining portion of 2020 and an approximate [REDACTED] in the same during full-year 2021:

Figure 5
Ads Impact Document – [REDACTED] Impact – May 2020⁸⁹

ChromeGuard Impact (M83)



36. As detailed in the Ads Impact document and a corresponding file of supporting calculations,⁹⁰ the “[REDACTED] Impact” numbers represented above were derived from Google’s examination of “key metrics” and other variables including but not limited to:

- Projected Google worldwide revenues attributable to Search Ads, YouTube Ads, and Display Ads;⁹¹
- Chrome’s share of traffic for Search Ads, YouTube Ads, and Display Ads;⁹²
- The percentage of Chrome pageloads that occur in Incognito mode;⁹³
- The percentage of Chrome traffic with third-party cookies;⁹⁴
- The portions of Google ad revenue attributable to conversion-based autobidding, non-conversion-based autobidding, and manual bidding;⁹⁵
- The relative revenue contribution of users with short-term (*i.e.*, young) cookies;⁹⁶ and
- The revenue impact due to the loss of personalization.⁹⁷

⁸⁹ GOOG-CABR-04324934 – 944 at 935. Emphasis added.

⁹⁰ GOOG-CABR-03635725, tabs “Search,” “YouTube,” “Display - conversion,” and “Display - p13n.”

⁹¹ GOOG-CABR-04324934 – 944 at 936 – 937; GOOG-CABR-03635725, tabs “Search,” “YouTube,” “Display - conversion,” and “Display - p13n.”

⁹² GOOG-CABR-04324934 – 944 at 936.

⁹³ GOOG-CABR-04324934 – 944 at 936.

⁹⁴ GOOG-CABR-04324934 – 944 at 940.

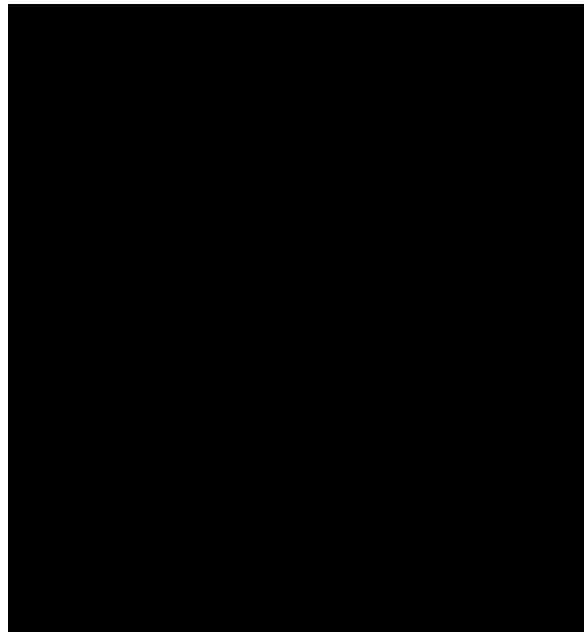
⁹⁵ GOOG-CABR-04324934 – 944 at 938; GOOG-CABR-03635725, tabs “Search,” “YouTube,” and “Display – conversion.”

⁹⁶ GOOG-CABR-04324934 – 944 at 940.

⁹⁷ GOOG-CABR-04324934 – 944 at 940.

37. As indicated above, the analyses summarized in Google's Ads Impact document segment the revenue impact of the [REDACTED] implementation across the three product categories of Display Ads, YouTube Ads, and Search Ads. Google's investigation of each product area included consideration of the Google revenue impacts attributable to the [REDACTED] implementation with respect to "personalization" (*i.e.*, employing online user data to target users with more relevant advertising content⁹⁸), "remarketing" (*i.e.*, customizing display ads for users who have previously visited a website⁹⁹), and "conversion tracking" (*i.e.*, correlating a user's interaction with an advertisement and that user's subsequent activity¹⁰⁰).
38. As indicated in the Ads Impact document, Google determined that there would be no impact to Google revenues attributable to Search Ads personalization because "Search Ads personalization does not rely on 3P cookies."¹⁰¹ The Ads Impact document also indicates a "minimal" impact to Google revenues attributable to YouTube Ads personalization, as "YouTube Ads personalization does not rely on 3P cookies on youtube.com" and the assumed *de minimis* (*i.e.*, 0.1%) "traffic fraction of embedded players."¹⁰² Google also determined that there would be "minimal" impact to Google revenues attributable to remarketing for each product area and omitted calculations of the same.¹⁰³ Google's conclusions with respect to revenue impacts attributable to personalization and conversion tracking for each product area are summarized in the figure below.

Figure 6
Google's Ads Impact Analysis – Personalization and Conversion Tracking Revenue Impacts for Search Ads, YouTube Ads, and Display Ads¹⁰⁴



⁹⁸ See, for example, "Personalized advertising" per Google Advertising Policies Help at <https://support.google.com/adspolicy/answer/143465?hl=en> (accessed March 13, 2022).

⁹⁹ See, for example, "Remarketing" per Google Ads Help at <https://support.google.com/google-ads/answer/1752338?hl=en> (accessed March 13, 2022).

¹⁰⁰ See, for example, "About conversion tracking" per Google Ads Help at <https://support.google.com/google-ads/answer/1722022?hl=en> (accessed March 14, 2022).

¹⁰¹ GOOG-CABR-04324934 – 944 at 937.

¹⁰² GOOG-CABR-04324934 – 944 at 938.

¹⁰³ GOOG-CABR-04324934 – 944 at 937, 939, and 940.

¹⁰⁴ Schedules 15.1 – 15.4. See also GOOG-CABR-04324934 – 944 at 935 and GOOG-CABR-03635725.

39. One identified author of the Ads Impact document is Huei-Hung (Chris) Liao, a Google Senior Staff Software Engineer with responsibility for serving infrastructure in the areas of user identity and privacy.¹⁰⁵ As indicated within the Ads Impact document and deposition testimony from Google witnesses, the analyses detailed in the Ads Impact document also involved the efforts of numerous other Google employees across different groups within Google including, but not limited to:
- Chetna Bindra, Product Manager, User Trust and Privacy;¹⁰⁶
 - Jon Greenberg, Analytics Manager, Search Ads;¹⁰⁷
 - Bert Leung, Software Engineer;¹⁰⁸
 - Ankur Lahoti, Software Engineer;¹⁰⁹
 - Christophe Combette, Group Product Manager, Privacy Centric & Online-to-Offline Measurement;¹¹⁰
 - Camille Wormser, Principal Engineer, Automated Bidding;¹¹¹
 - Vic Liu, Software Engineer;¹¹²
 - Robert Banz, Tech Lead, Privacy Engineering;¹¹³
 - Joshua Knox, Manager, Privacy and Data Protection;¹¹⁴
 - Christian Dullweber, Engineer and Chrome Data Analyst;¹¹⁵ and
 - Marshall Vale, Product Manager, Chrome Privacy Sandbox.¹¹⁶
40. The results of the analysis detailed in the Ads Impact document were included in a May 21, 2020 internal presentation entitled “Ads Privacy Ecosystem”:¹¹⁷

¹⁰⁵ Deposition of Chris Liao, December 2, 2021, pp. 12-13, 160; Liao Exhibits 1, 10; Deposition of Audrey An, March 22, 2022, pp. 55 – 58.

¹⁰⁶ Deposition of Chris Liao, December 2, 2021, p. 169; <https://www.linkedin.com/in/chetna-bindra-4a51003/> (accessed March 15, 2022); Deposition of Rory McClelland, February 18, 2022, pp. 148-149, 185-186.

¹⁰⁷ Deposition of Chris Liao, December 2, 2021, p. 158; Deposition of Audrey An, March 22, 2022, pp. 55 – 58; GOOG-CABR-04324934 – 944 at 941; <https://www.linkedin.com/in/jonathan-greenberg-0789687/> (accessed March 15, 2022).

¹⁰⁸ GOOG-CABR-04324934 – 944 at 941-942; <https://www.linkedin.com/in/bert-leung-159b5733/> (accessed March 15, 2022).

¹⁰⁹ GOOG-CABR-04324934 – 944 at 941-942; <https://www.linkedin.com/in/ankur-lahoti-586ab6/> (accessed March 15, 2022).

¹¹⁰ GOOG-CABR-04324934 – 944 at 941; GOOG-BRWN-00845277-280 at 280.

¹¹¹ GOOG-CABR-04324934 – 944 at 942; <https://www.linkedin.com/in/camillewormser/> (accessed March 15, 2022).

¹¹² GOOG-CABR-04324934 – 944 at 937; Deposition of Chris Liao, December 2, 2021, p. 158; <https://www.linkedin.com/in/victor-liu-85016932/> (accessed March 15, 2022).

¹¹³ Deposition of Chris Liao, December 2, 2021, p. 158; <https://www.linkedin.com/in/robbanz/> (accessed March 15, 2022).

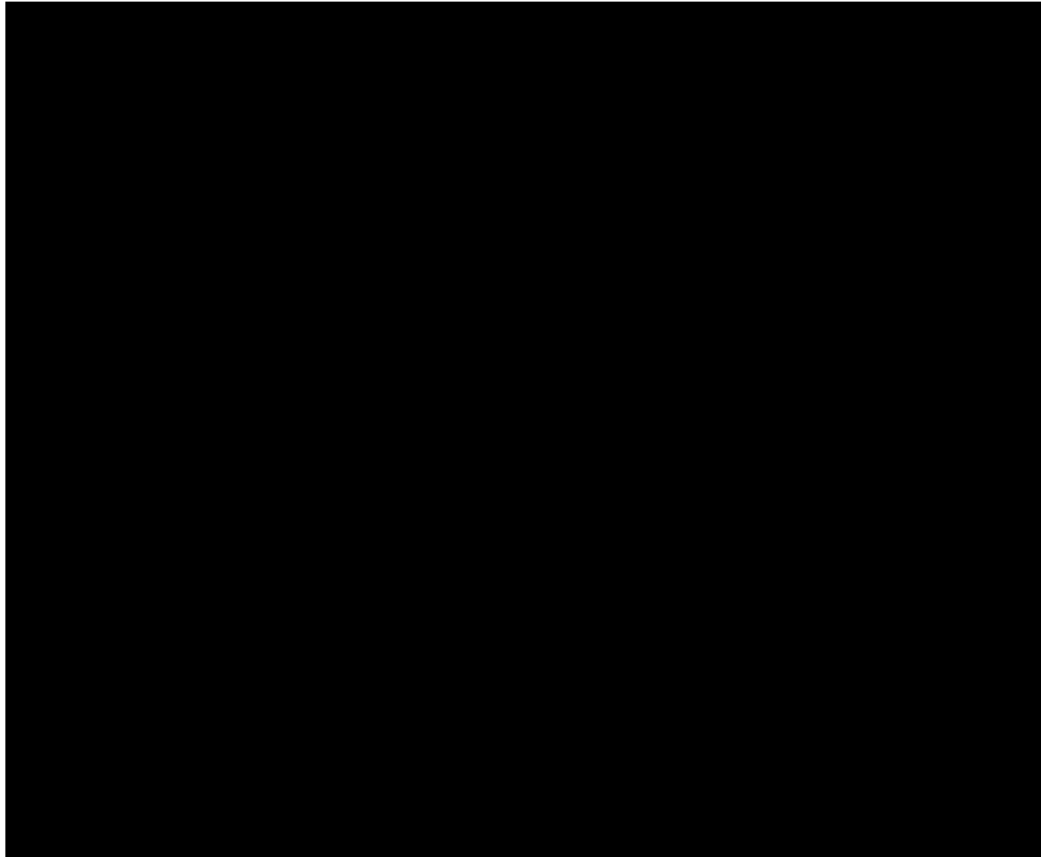
¹¹⁴ Deposition of Chris Liao, December 2, 2021, p. 169; <https://www.linkedin.com/in/joshknoxgoogle/> (accessed March 15, 2022).

¹¹⁵ Deposition of Audrey An, March 22, 2022, pp. 66 – 67; Deposition of Abdelkarim Mardini, November 24, 2021, pp. 400, 415.

¹¹⁶ Deposition of Abdelkarim Mardini, November 24, 2021, pp. 409 – 410.

¹¹⁷ GOOG-BRWN-00428101 – 123 at 105 – 107.

Figure 7
Google Presentation – Ads Privacy Ecosystem – May 21, 2020¹¹⁸



41. As indicated in the notes field of the presentation pictured above, Google personnel wrote that the results of their analyses “may represent a lower bound for 2021 given the upcoming launch of [REDACTED] on iOS [and] the fast growth of auto-bidding.”¹¹⁹ The same notes indicate that other factors embedded in Google’s analysis could also change, including the overall use of Incognito “which remains difficult to predict.”¹²⁰ Relatedly, according to Audrey An, Google’s corporate designee regarding the Ads Impact document and this presentation,¹²¹ certain of the assumptions in Google’s analysis could have also understated the financial impact to Google. Ms. An testified to her understanding that [REDACTED]

[REDACTED]

Q. We’ve reviewed Exhibits 5 and 6 here today ma’am. Is there any reason to doubt the accuracy of the numbers contained in those two exhibits?

A. I don’t think so at the time of their preparation, though, as we know, since the preparation of these documents there have been a few known assumption changes. Those assumption changes may have continued to happen after the

¹¹⁸ GOOG-BRWN-00428101 – 123 at 107. Emphasis added.

¹¹⁹ GOOG-BRWN-00428101 – 123 at 107.

¹²⁰ GOOG-BRWN-00428101 – 123 at 107.

¹²¹ Deposition of Audrey An, March 22, 2022, pp. 7 – 8, Exhibit 1.

time of preparation, but at the time of preparation there's no reason to doubt the accuracy.

Q. Did you do anything to investigate to make certain that that statement is accurate?

A. I did speak to Jon [Greenberg] about some of the assumptions underlying Exhibit 6. So if you look at, for instance, the search tab, when he prepared this document,

[REDACTED]

Q. So because -- so there's numbers for the better?

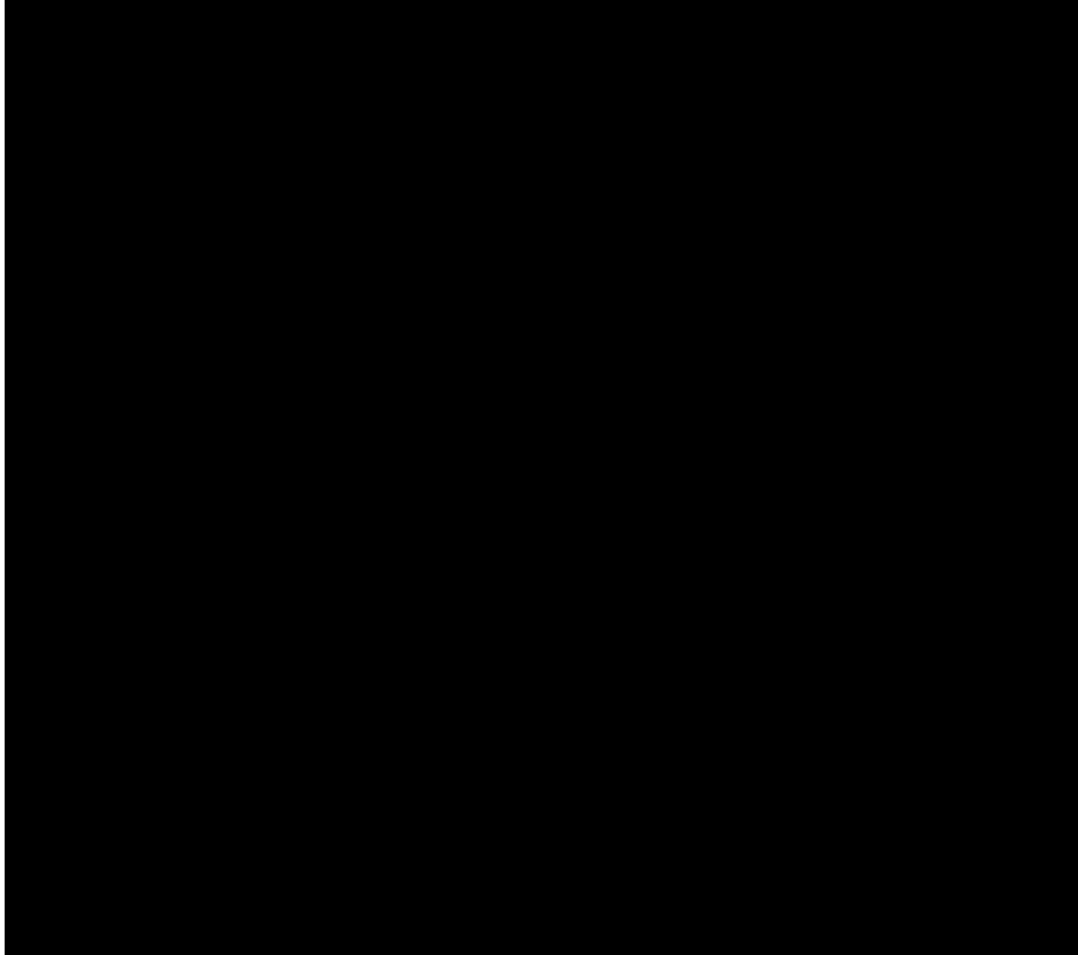
A. That's correct -- or rather, sorry I don't know exactly what but he just said that they're potentially no longer as accurate as when he created this.¹²²

42. As indicated in the figure below, the Ads Privacy Ecosystem presentation also notes a “long, close engagement” with the Chrome and Ads teams “over the last nine months” and that the [REDACTED] and [REDACTED] impact figures represented updates from earlier analyses which estimated a [REDACTED] impact for partial-year 2020.¹²³ Google personnel charged with the analysis indicated that they had incorporated “more signals” related to autobidding, COVID-19, and the proration and annualization of impact figures:

¹²² Deposition of Audrey An, March 22, 2022, pp. 73 – 74.

¹²³ GOOG-BRWN-00428101 – 123 at 106. Based on the information available in the source, the [REDACTED] impact value is an estimate for 2020. I note that a summary of the timeline and series of events between August 2019 and April 2020 and culminating with the internal communication of this [REDACTED] revenue estimate was provided in a May 5, 2020 email from Abdelkarim Mardini to other Google personnel. See GOOG-BRWN-00439740 – 745 at 740.

Figure 8
Google Presentation – Ads Privacy Ecosystem: [REDACTED] Impact Update¹²⁴

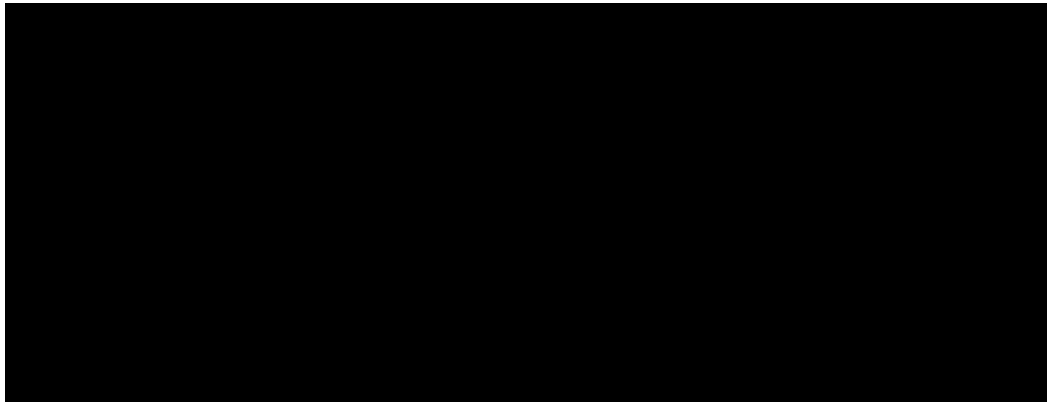


43. In addition to their inclusion in the May 21, 2020 Ads Privacy Ecosystem presentation, the results of Google’s analyses of the [REDACTED] implementation have also been referenced in several other internal Google documents, including but not limited to:
- **2019-2020 [REDACTED] Project Notes.** This internal document, which appears to consolidate meeting agendas, notes, and key tasks for Google’s “[REDACTED] Project” during the period May 20, 2019 through December 14, 2020, includes several references to the evolution of the internal analyses summarized in the Ads Impact document. For example, the earliest reference to the analysis occurred on May 4, 2020 as a “[q]uick update on [REDACTED] estimates” from Chris Liao related to autobidding and COVID-19:

¹²⁴ GOOG-BRWN-00428101 – 123 at 106. Emphasis added.

Figure 9

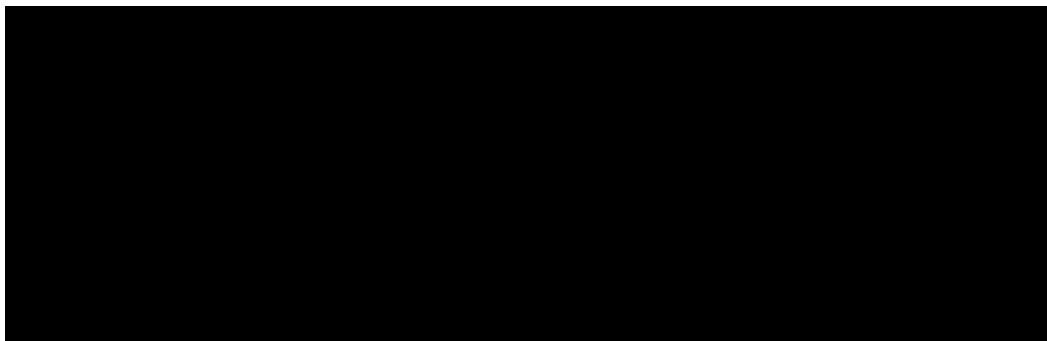
██████████ Project Notes – May 4, 2020¹²⁵



Subsequent notes for a May 11, 2020 meeting represent that the ██████████ impact update” was the “primary discussion and direction” for that day:

Figure 10

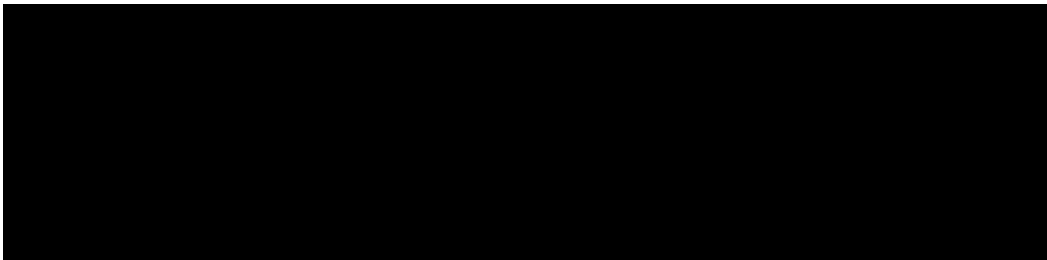
██████████ Project Notes – May 11, 2020¹²⁶



The May 11, 2020 meeting notes also include a directive for all participants to review the Ads Impact document for discrepancies or issues:

Figure 11

██████████ Project Notes – May 11, 2020¹²⁷



Subsequent notes dated June 1, 2020 reference the estimated “~██████████ impact in 2020, ~\$██████████ impact in 2021” as part of a “██████████ workstreams update”:

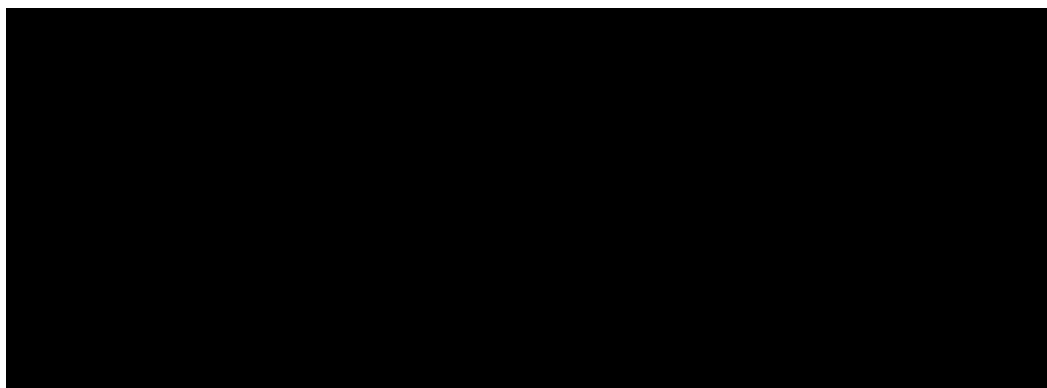
¹²⁵ GOOG-CABR-04867499 – 582 at 555. Emphasis added.

¹²⁶ GOOG-CABR-04867499 – 582 at 553. Emphasis added.

¹²⁷ GOOG-CABR-04867499 – 582 at 553. Emphasis added.

Figure 12

Project Notes – June 1, 2020¹²⁸

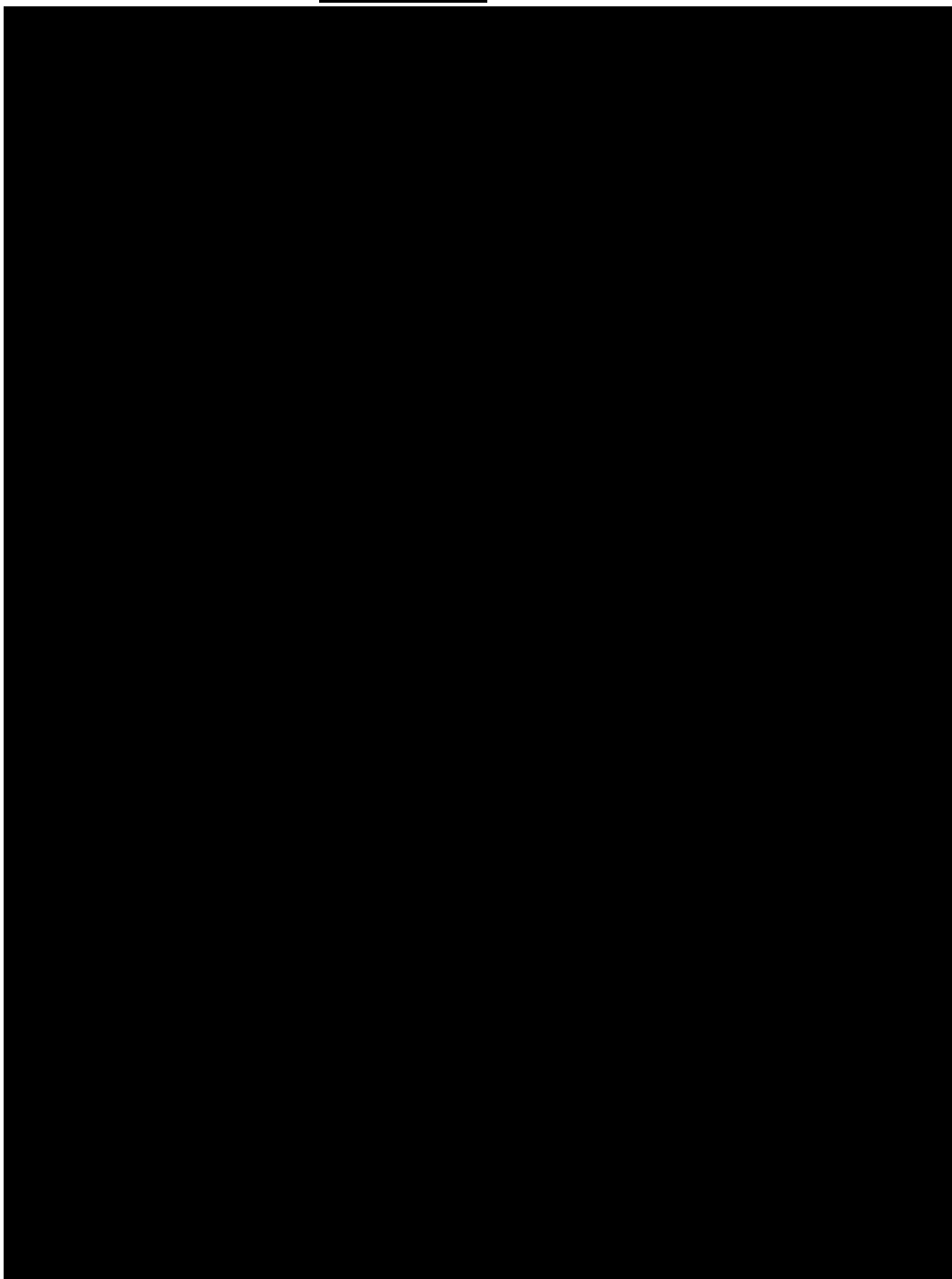


- **Early May 2020 Emails “Re: [Ask] Steering update on [REDACTED] Ads Impact.”** In an email string among Google personnel dated between May 7 and May 11, 2020, Chetna Bindra circulated the [REDACTED] impact figures.¹²⁹ In introducing the figures, Ms. Bindra explained that the previous estimate “needed to be updated given a few issues that teams surfaced” at a recent Chrome/Ads meeting:

¹²⁸ GOOG-CABR-04867499 – 582 at 548.

¹²⁹ GOOG-CABR-05279618 – 621 at 619 – 620.

Figure 13
Email Re Updated [REDACTED] Impact Figures – May 7, 2020¹³⁰



Later in the email string, in response to a question regarding whether certain “leads” had received a “heads up” about the updated revenue impact, Ms. Bindra responded that they were aware of the initial estimate and would receive the revised estimate later that day:

¹³⁰ GOOG-CABR-05279618 – 621 at 619 – 620. Emphasis added.

Figure 14
Email Re Revised Estimate and Leads – May 11, 2020¹³¹



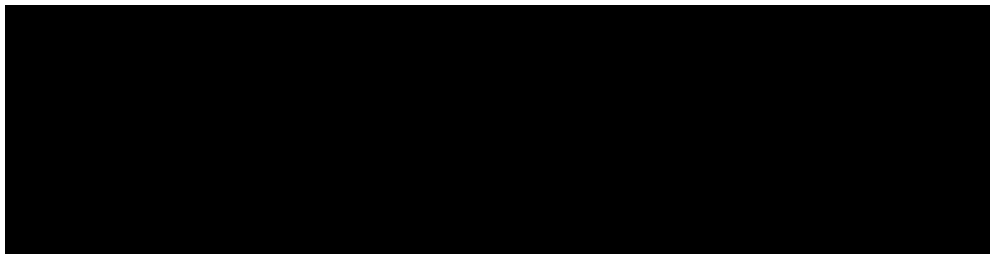
- **Early May 2020 Emails “Re: Chrome / Incognito change – seeking feedback on comms doc.”** In an email string among Google personnel dated between May 12 and May 13, 2020, the same [REDACTED] impact figures were circulated among a group of Google employees which included Ludovic de Valon, Global Head of Google Display Ads, and Neha Khanna, Global Head of Ads Privacy.¹³² In one message in the string, Ms. Khanna introduces the impact numbers as follows:

*Next week Chrome plans to announce deprecation of 3P cookies in incognito mode. They plan to do this by July 30th. See estimated impact below and detailed analysis [hyperlink]. Not for broad circulation. We expect limited impact to personalized ads targeting and remarketing (given short session profiles) but slightly higher impact to conversion tracking. We started a draft comm doc [hyperlink]. For now the plan is to keep comms reactive. Ask: Please review the comm doc and add suggestions and content by the end of the week. Please do not share the comm doc or this information broadly as this is confidential prior to the announcement.*¹³³

Ms. Khanna’s message was then forwarded by Mr. de Valon to Ms. Pericolosi, who responded by asking “[w]ere we involved in providing the revenue estimate?”¹³⁴ Mr. Ali Nasiri Amini responded that he had “heard from Chetna this week that they had a review with Pragh and his leads and they approved it.”¹³⁵

- **Mid-2020 Ads Privacy Ecosystem Steering Notes.** In these May 11, 2020 “Steering Notes” for the Ads Privacy Ecosystem group, the updated impact figures are referenced using the same language from the presentation:

Figure 15
Ads Privacy Ecosystem Steering Notes – May 11, 2020¹³⁶



¹³¹ GOOG-CABR-05279618 – 621 at 618.

¹³² GOOG-CABR-05420346 – 348.

¹³³ GOOG-CABR-05420346 – 348 at 346 – 347. Emphasis added.

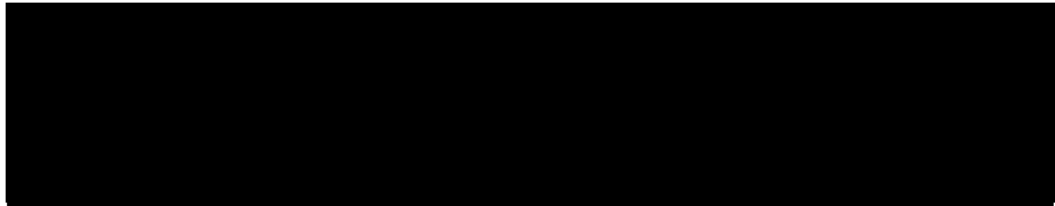
¹³⁴ GOOG-CABR-05420346 – 348 at 346.

¹³⁵ GOOG-CABR-05420346 – 348 at 346.

¹³⁶ GOOG-CABR-03956603 – 606 at 604.

- **Mid-2020 [REDACTED] Proposal and Impact Document.** In this mid-2020 [REDACTED] Proposal and Impact document, which appears to be a work in progress, the \$ [REDACTED] and \$ [REDACTED] impact figures are once again quoted as the “new estimate” after incorporating signals related to autobidding, COVID-19, and proration or annualization of the figures:

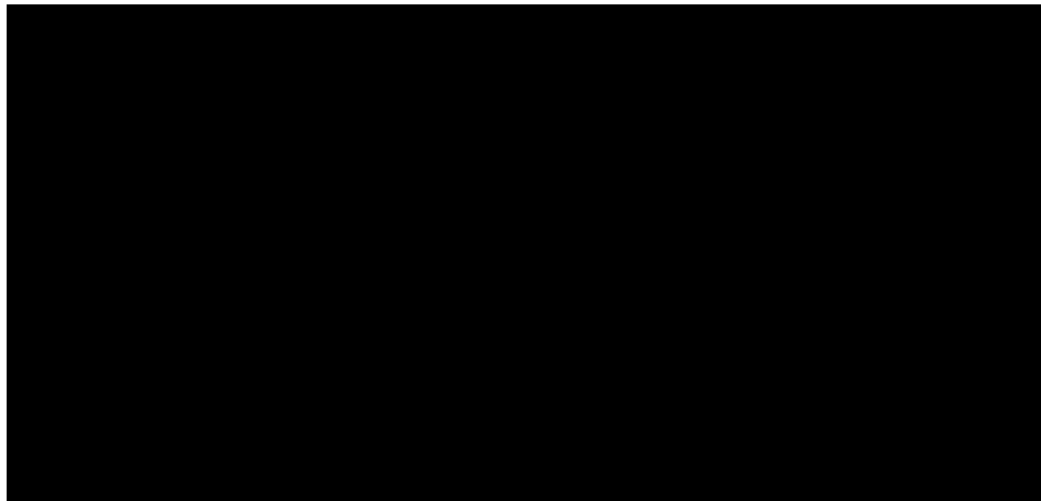
Figure 16
[REDACTED] Proposal and Impact Document – Mid 2020¹³⁷



The document also indicates several required approvals from project leads and stakeholders associated with the [REDACTED] proposal.¹³⁸

- **Mid-2020 Email “Re: Incognito Chrome 3P Blocking.”** In an email string dated between May and June 2020 among Christophe Combette, Philip Trencher, and other Google personnel, Mr. Trencher asked several questions regarding “the latest on Chrome blocking 3P cookies by default in incognito mode and its effect on measurement”:

Figure 17
Email “Re: Incognito Chrome 3P Blocking” – May 19, 2020¹³⁹



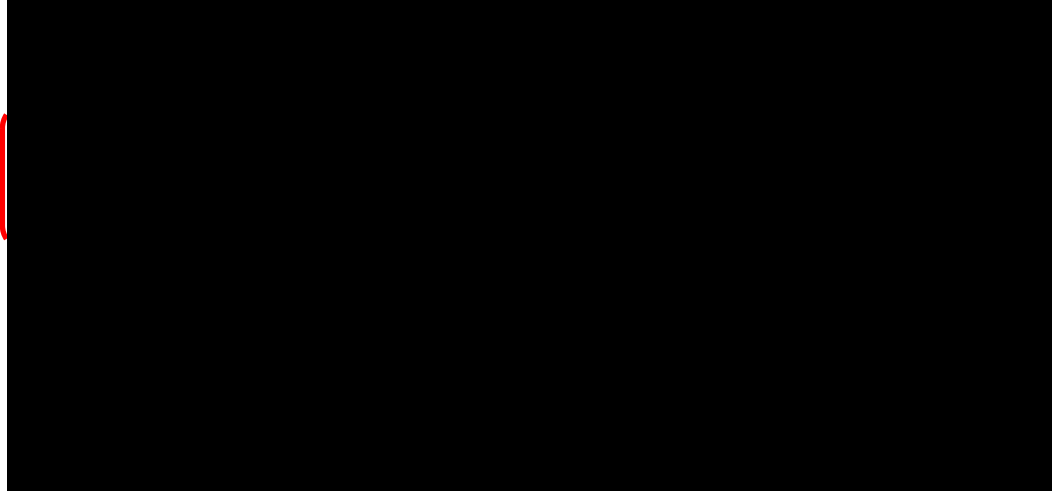
In response to Mr. Trencher’s questions, Mr. Combette quoted the [REDACTED] impact estimates and represented that the figures “only account[] for bidding revenue and not the broader impact on conversions which is larger”:

¹³⁷ GOOG-CABR-00391340 – 346 at 340.

¹³⁸ GOOG-CABR-00391340 – 346 at 341.

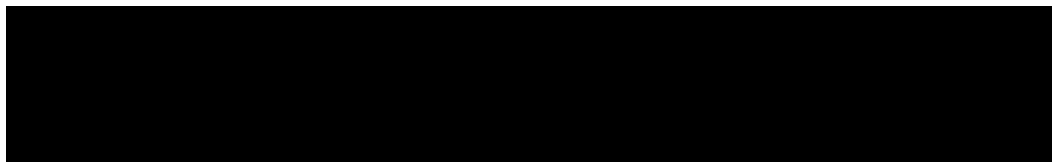
¹³⁹ GOOG-CABR-03662975 – 979 at 978.

Figure 18
Email “Re: Incognito Chrome 3P Blocking” – May 19, 2020¹⁴⁰



Mr. Trencher then replied that his “privacy GPL team has been leading this, but had reached out in case we wanted to make any changes to the measurement-specific section.”¹⁴¹ He also indicated that the [REDACTED] estimate was “in line” with what he saw and that they were “working off the same information”:

Figure 19
Email “Re: Incognito Chrome 3P Blocking” – May 19, 2020¹⁴²



44. As discussed below, other evidence of Google’s internal analyses of other modifications to its data collection and monetization practices varies from the Ads Impact document with respect to the assumptions made, time periods covered, and advertising platforms evaluated. Nonetheless, this evidence consistently indicates Google’s expectation that the blocking of third-party cookies and other changes to data collection processes would translate to decreased revenues:

Q1 2020 Google Presentation: “Project Samoas: Publisher’s 1P Cookies/ID Strategy in a Post 3P Cookie World”¹⁴³

45. In this internal Google “Project [REDACTED] presentation, dated “Q1 2020,” Google personnel contemplate a changing industry that is increasingly concerned with the privacy of user data and within which third-party cookies are increasingly disallowed.¹⁴⁴ As illustrated in the image below, the Google presentation indicates that the blocking of third-party cookies was associated

¹⁴⁰ GOOG-CABR-03662975 – 979 at 977.

¹⁴¹ GOOG-CABR-03662975 – 979 at 977.

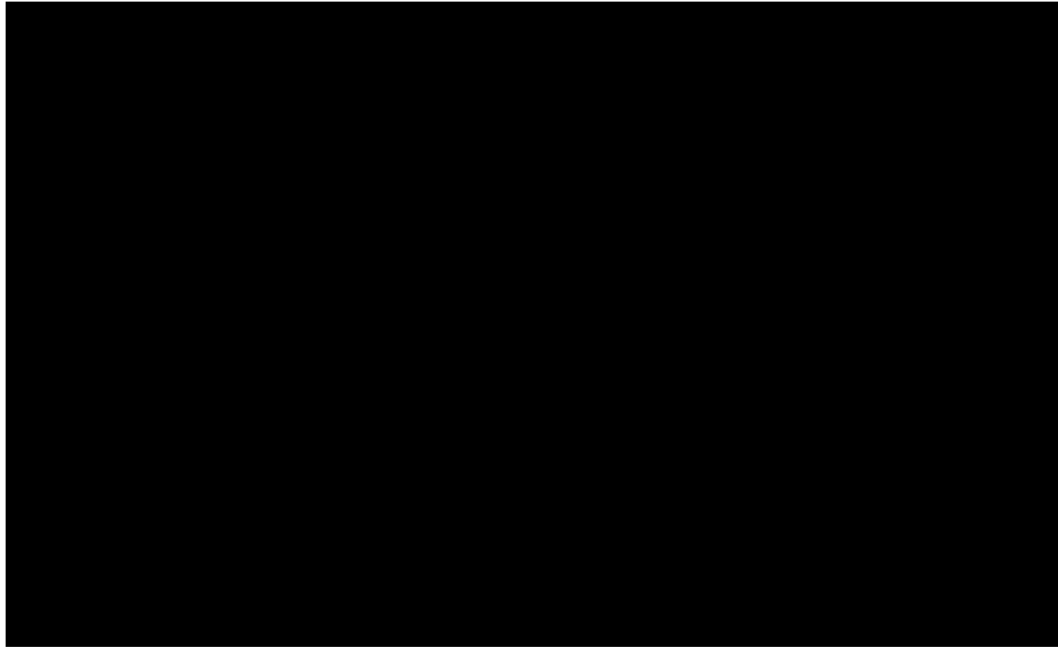
¹⁴² GOOG-CABR-03662975 – 979 at 977.

¹⁴³ GOOG-BRWN-00027456 – 474.

¹⁴⁴ GOOG-BRWN-00027456 – 474 at 457.

with an average [REDACTED] in publishers' "auction ads revenue" and the loss of [REDACTED] reach" by advertisers:

Figure 20
Project [REDACTED] Presentation – Q1 2020¹⁴⁵



46. The speaker notes to the above slide also indicate that the loss of third-party cookies will preclude Google's ability to "support cross domain personalization, frequency capping, conversion measurement, etc."¹⁴⁶

July 2019 Google Presentation: Policy & Trust Review¹⁴⁷

47. In an internal presentation dated July 16, 2019 and entitled "Policy & Trust Review," Google personnel considered changes that were ultimately not made to Incognito but would have permitted private online browsing from an "incognito.google.com" website.¹⁴⁸ As illustrated in the figures below, the presentation indicated that Google's implementation of "In-sync browser & server incognito" would have had "a small impact on quality [and less than] [REDACTED]" revenue impact if the usage rate was less than 10%, but no less than a [REDACTED] impact if usage was "mainstream":

¹⁴⁵ GOOG-BRWN-00027456 – 474 at 457.

¹⁴⁶ GOOG-BRWN-00027456 – 474 at 457.

¹⁴⁷ GOOG-CABR-04787255 – 296.

¹⁴⁸ GOOG-CABR-04787255 – 296 at 281 – 282, 285.

Figure 21
Google – Policy & Trust Review – July 2019¹⁴⁹

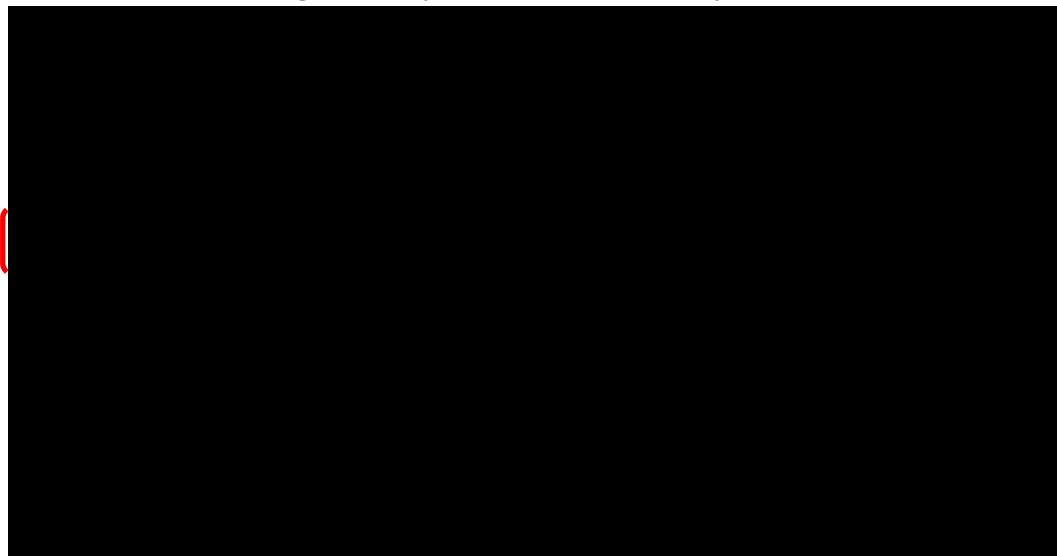
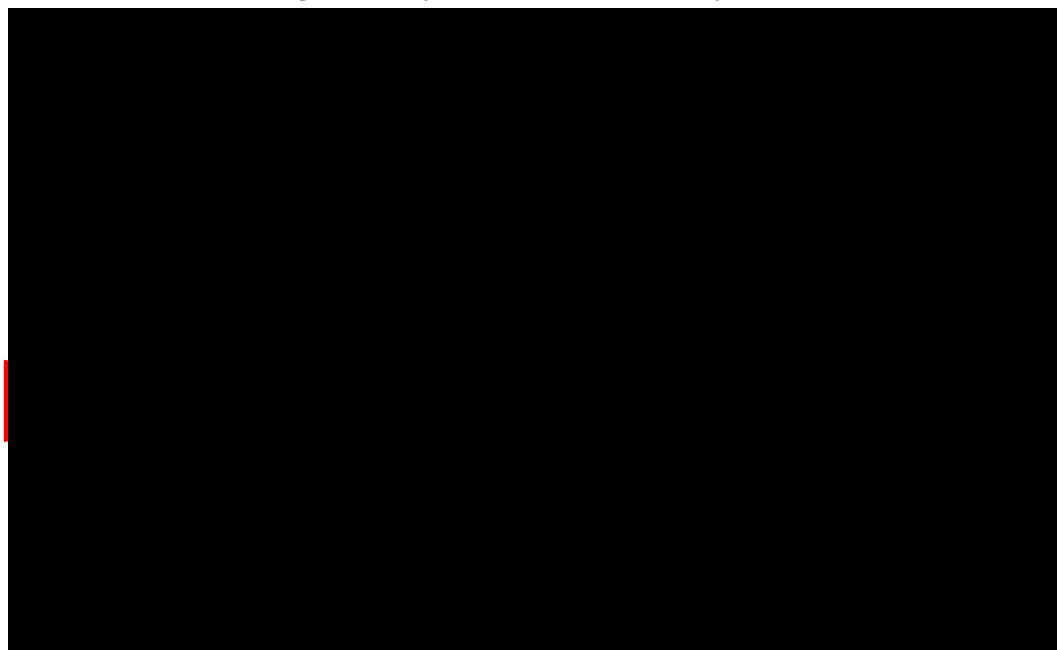


Figure 22
Google – Policy & Trust Review – July 2019¹⁵⁰



October 2018 Email Re: “Updating/ re-doing the chrome impact model”¹⁵¹

48. In an email dated October 29, 2018, David Goodman, Lead Analyst – Ads Project and Engineering, inquired as to the necessity of updating a model that estimated the total 2019 loss to Chrome as a result of “Chrome going ITP.”¹⁵² I understand that the term “Chrome going ITP”

¹⁴⁹ GOOG-CABR-04787255 – 296 at 285. Emphasis added.

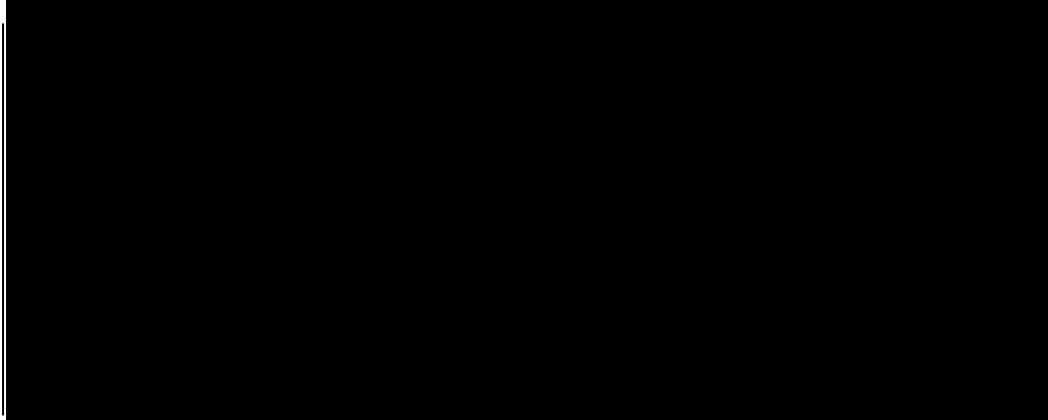
¹⁵⁰ GOOG-CABR-04787255 – 296 at 291. Emphasis added.

¹⁵¹ GOOG-CABR-03958888.

¹⁵² GOOG-CABR-03958888.

apparently refers to the implementation of third-party cookie blocking in all of Chrome, as ITP is a feature introduced by Apple that blocks third-party cookies.¹⁵³ Mr. Goodman's email included the following chart outlining various scenarios of potential changes to Chrome and the corresponding impact on 2019 Chrome revenues:

Figure 23
Email "Re: Updating/ re-doing the chrome impact model": October 29, 2018¹⁵⁴



49. While the above scenarios and corresponding financial impacts are not specific to Incognito, they provide further evidence of the magnitude of the revenue Google generates through Chrome and the expected financial impacts to Google from changes to Chrome privacy practices.

6.5. Potentially Available Measures of Monetary Relief

50. I understand from Counsel that several forms of monetary relief are available for the alleged wrongful conduct specified in Plaintiffs' Third Amended Complaint. I understand from Counsel that these forms of monetary relief include without limitation statutory damages, actual damages (which would include restitution), and non-restitutionary disgorgement (also referred to as unjust enrichment). I understand that injunctive relief is also available for the alleged wrongful conduct.
51. I understand that in seeking non-restitutionary disgorgement Plaintiffs may present evidence of the total or gross amount of the benefit from the alleged misconduct, or a reasonable approximation thereof, and then the defendant may present evidence of costs, expenses, and other deductions to show the actual or net benefit the defendant received.¹⁵⁵

7. UNJUST ENRICHMENT

52. In my opinion, the internal analyses that Google conducted and relied upon for purposes of assessing the financial impact to Google of blocking third-party cookies by default in Chrome Incognito mode provide the most appropriate and reliable basis for quantifying the non-restitutionary damages sought by Plaintiffs in this matter. Google's contemporaneous analyses in

¹⁵³ GOOG-CABR-00141714 – 721 at 717. See also, GOOG-CABR-03611277 – 289 at 277, 278.

¹⁵⁴ GOOG-CABR-03958888.

¹⁵⁵ See, for example, Restatement (Third) of Restitution and Unjust Enrichment § 51 (2011); *Meister v. Mensinger*, 230 Cal. App. 4th 381, 399 (2014); *Am. Master Lease LLC v. Idanta Partners, Ltd.*, 225 Cal. App. 4th 1451, 1487 (2014).

this regard are consistent with the types of analyses that I would expect to perform to determine Google's unjust enrichment even in the absence of such evidence.

53. Google's contemporaneous analyses of the financial impact to Google of blocking third-party cookies by default in Chrome Incognito mode can be adjusted to reliably quantify Google's unjust enrichment under a range of potential liability scenarios. As detailed in the sections below, I have therefore quantified Google's unjust enrichment attributable to the alleged wrongful conduct for the two Classes and for the period June 1, 2016 through December 31, 2021 (the latest date for which necessary Google financial data is currently available) based on the analyses set forth in Google's Ads Impact document and other relevant inputs.
54. My analyses of Google's unjust enrichment are segmented by Google product area (*e.g.*, Display Ads, YouTube Ads, and Search Ads), private browsing mode (*e.g.*, Incognito Mode and Other Private Browsing Modes), revenue source (*e.g.*, personalization or conversion tracking), and the scope of conversion tracking (*e.g.*, conversion tracking from traffic with third-party cookies or conversion tracking from all traffic, including that which leverages first-party cookies and sitewide tagging). This segmentation is intended to assist the trier of fact in determining Google's unjust enrichment under the assumption that the alleged wrongful conduct enabled Google to be unjustly enriched by an amount equal to:
 - Google's U.S. revenues and attendant profits generated from Google's collection and use of the private browsing data at issue;
 - Google's U.S. revenues and attendant profits generated from its collection and use of the private browsing data at issue that is attributable to personalization from traffic with third-party cookies and conversion tracking from all traffic, including conversion tracking via sitewide tagging;
 - Google's U.S. revenues and attendant profits generated from its collection and use of the private browsing data at issue attributable to personalization from traffic with third-party cookies and conversion tracking from traffic with third-party cookies; or
 - A combination thereof.
55. The information contained in this report and corresponding schedules can therefore be used to quantify and determine Google's unjust enrichment during the period June 1, 2016, the beginning of the Class Period, through December 31, 2021, the latest date for which certain necessary Google financial data is currently available.¹⁵⁶
56. My analysis in this regard is further discussed in the sections below.

7.1. Basis of Unjust Enrichment Analysis

57. Based on my review and consideration of the available record, it is my opinion that the most appropriate starting point for an analysis of Google revenues attributable to the alleged wrongful conduct is Google's May 2020 analysis of the [REDACTED] implementation as represented in

¹⁵⁶ While my current calculations of unjust enrichment cover the period June 1, 2016 through December 31, 2021, I could readily update these calculations to cover subsequent periods through the date of trial. Relatedly, to the extent that the trier of fact determines that the calculation of unjust enrichment should start on a date later than June 1, 2016, the calculations attached to this report can be readily modified to reflect that alternative period.

the Ads Impact document.¹⁵⁷ As previously discussed, Google's analysis in this regard was related to certain of the alleged wrongful conduct, performed in the normal course of business, authored and informed by a cross section of Google personnel and stakeholders, presented to Google management, and relied upon for decision-making purposes.

58. While the Ads Impact document summarized Google's own analyses and determination of the expected impact to its Display Ads, YouTube Ads, and Search Ads business segments from the [REDACTED] implementation (*i.e.*, the blocking of third-party cookies by default within Incognito), I have determined (and it is my opinion) that Google's contemporaneous analyses can be modified to reasonably quantify other measures of Google's unjust enrichment from the alleged wrongful conduct throughout the Class Period (through December 31, 2021) for both Classes.
59. Consistent with the methodology set forth in Google's Ads Impact document, I segment my analyses of Google's unjust enrichment into the three product categories of Display Ads, YouTube Ads, and Search Ads. My analyses of each of these categories are described below and detailed in the attached schedules.

7.2. Analysis of Google's U.S. Display Ads Revenues Attributable to Private Browsing Modes

60. As previously discussed, I segmented my analyses of Google's unjust enrichment by Google product area (*e.g.*, Display Ads, YouTube Ads, and Search Ads), private browsing mode (*e.g.*, Incognito Mode and Other Private Browsing Modes), revenue source (*e.g.*, personalization or conversion tracking), and the scope of conversion tracking (*e.g.*, conversion tracking from traffic with third-party cookies or conversion tracking from all traffic, including that which leverages first-party cookies and sitewide tagging). This segmentation is intended to assist the trier of fact in determining Google's unjust enrichment under a range of potential liability scenarios. As it relates to Google's unjust enrichment from the alleged wrongful conduct and Display Ads, I sought to separately quantify Google's unjust enrichment under the assumption that the alleged wrongful conduct enabled Google to be unjustly enriched by an amount equal to one of the following:
 - Google U.S. Display Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes;
 - Google U.S. Display Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes attributable to personalization from traffic with third-party cookies and conversion tracking from all traffic (*i.e.*, including sitewide tagging); or
 - Google U.S. Display Ads revenues generated from user browsing activities in Incognito mode and Other Private Browsing Modes attributable to personalization from traffic with third-party cookies and conversion tracking from traffic with third-party cookies.
61. My analysis of each of these scenarios is based on Google's May 2020 analysis of the financial impact of [REDACTED] as represented in the Ads Impact document, summarized in the figure below, and detailed in the subsequent sections of this report and corresponding schedules.

¹⁵⁷ GOOG-CABR-04324934 – 944.

Figure 24
Summary of Google's Unjust Enrichment from
U.S. Display Ads Revenues Attributable to Alleged Wrongful Conduct by Liability Scenario:
June 1, 2016 – December 31, 2021¹⁵⁸



7.2.1. Google U.S. Display Ads Revenues Generated from Incognito and Other Private Browsing Modes

62. I understand from Mr. Hochman that Google generated advertising revenues for Display by way of Google tracking beacons embedded within non-Google websites that cause a user's browser to send to Google copies of the communications exchanged between the user's browser and the website.¹⁵⁹ These Google tracking beacons enable Google to serve display advertisements to users during private browsing and to track conversion events.¹⁶⁰
63. Based on my review and analysis of the Ads Impact document, I have determined that it is possible to quantify Google's U.S. Display Ads revenues from Incognito and Other Private Browsing Modes based on Google's methodology and inputs set forth therein. The Ads Impact document and a file of supporting calculations illustrate Google's contemporaneous assumptions regarding "Chrome overall traffic share per Google property," "Chrome 'Incognito Mode' traffic out of all Chrome traffic," and the resulting "overall traffic impacted by [REDACTED] per Google property."¹⁶¹ Google's methodology and assumptions can therefore be applied to its actual U.S. Display Ads revenues during the Class Period to quantify Google's U.S. Display Ads revenues from Incognito and Other Private Browsing Modes.
64. In various SEC Filings, Alphabet reports worldwide annual "Google Advertising" revenues attributable to "Google Search & Other," "YouTube Ads," and "Google Network."¹⁶² As discussed in Section 6.1, the segment that is publicly reported as "Google Network" is often characterized as "Display" or "Display Ads" in Google's internal business documents. Alphabet also publicly reports annual "Revenues by Geography" as a percentage of total revenues, including the percentage of total revenues that Alphabet attributes to the United States.¹⁶³ As

¹⁵⁸ Schedules 1.1, 1.2, 1.3. Consistent with the analyses set forth in the Ads Impact document and Google's internal communications regarding the same, I have measured the financial impact to Google of the [REDACTED] implementation and Google's unjust enrichment attributable to the alleged wrongful conduct in terms of revenue. As of the filing of this report, I am not aware of information from Google sufficient to allow for the determination and deduction of incremental costs, if any. To the extent that Google or its experts identify documents indicating that a deduction of incremental costs may be appropriate and that those costs can be accurately calculated, I reserve the right to review that information and amend my analyses, if necessary.

¹⁵⁹ Discussions with Mr. Hochman.

¹⁶⁰ Discussions with Mr. Hochman.

¹⁶¹ GOOG-CABR-04324934 – 944 at 936.

¹⁶² See, for example, Alphabet Inc. SEC Form 10-K for the fiscal year ended December 31, 2021, p. 33.

¹⁶³ See, for example, Alphabet Inc. SEC Form 10-K for the fiscal year ended December 31, 2021, p. 35.

detailed in the attached schedules, I have used this data (currently available through December 31, 2021) to estimate U.S. advertising revenues from Search Ads, YouTube Ads, and Display Ads for the period June 1, 2016 through December 31, 2021.¹⁶⁴

65. To the resulting starting point of U.S. advertising revenues from Display Ads, I then determine, isolate, and deduct the portion of those revenues attributable to in-app advertisements, as compared to advertisements placed on browsers. For purposes of this adjustment, I analyzed Google data regarding the annual share of Display Ads revenues attributable to Google's "AdMob" network. In its online product overview, Google describes AdMob as a service that "makes it easy for developers to earn money from their mobile apps with high-quality ads."¹⁶⁵ Google notes that "[a]ds are created and paid for by advertisers who want to promote their products or services to app users. Once [developers] create space for ads in [their] app, AdMob works with advertisers who pay to show ads that are relevant to [their] users."¹⁶⁶ As Google does not publicly disclose revenues attributable to AdMob, I searched for and analyzed information regarding annual AdMob revenues in the available document production. As detailed in the attached schedules, these documents indicate that AdMob revenues have accounted for a growing share of total Display Ads revenues, increasing from approximately [REDACTED] of Display Ads revenues in 2016 to approximately [REDACTED] of Display Ads revenues in 2021.¹⁶⁷ I therefore calculated and deducted the portion of Display Ads revenues attributable to AdMob for each year in the Class Period through December 31, 2021.¹⁶⁸
66. After deducting the portion of Display Ads revenues attributable to in-app advertisements, I then isolated the portion of remaining revenues attributable to the Chrome browser by applying Google's assumed Chrome traffic share specific to Display Ads as set forth in the Ads Impact document and file of supporting calculations. Notably, however, while certain portions of the Ads Impact document describe a [REDACTED] Chrome traffic share for Display Ads, Google's file of supporting calculations and the financial impact conclusions set forth in the Ads Impact document assume a [REDACTED] Chrome traffic share for Display Ads.¹⁶⁹ As the conclusions of the financial impact from [REDACTED] were communicated and relied upon internally at Google, I have based my primary calculations on the [REDACTED] Chrome traffic share for Display Ads.¹⁷⁰ That said, Google's internal document "comments" that are partially visible on the face of the Ads

¹⁶⁴ Schedules 12.1, 12.2, and 12.3. I understand from Counsel that on April 14, 2022, after the close of the fact discovery, Google produced a one-page pdf file that Google's counsel described as a "2021 Display Ads P&L." See GOOG-CABR-X-00001225 and April 14, 2022 Letter from T. Fani re: Google production Volume X-011. I am not aware of any corresponding native files, supporting calculations, or other explanation or detail regarding the information summarized on this one-page document. I have therefore continued to base this aspect of my analysis, in part, on the information contained in Alphabet's SEC Filings. To the extent that Google or its expert(s) contends that my calculations would be more appropriately based on the information in this or any other document, I reserve the right to consider that information and amend my analysis, if appropriate.

¹⁶⁵ "What is AdMob" per <https://admob.google.com/home/resources/what-is-admob/> (accessed April 6, 2022).

¹⁶⁶ "What is AdMob" per <https://admob.google.com/home/resources/what-is-admob/> (accessed April 6, 2022).

¹⁶⁷ Schedule 12.5.

¹⁶⁸ Schedule 12.1.

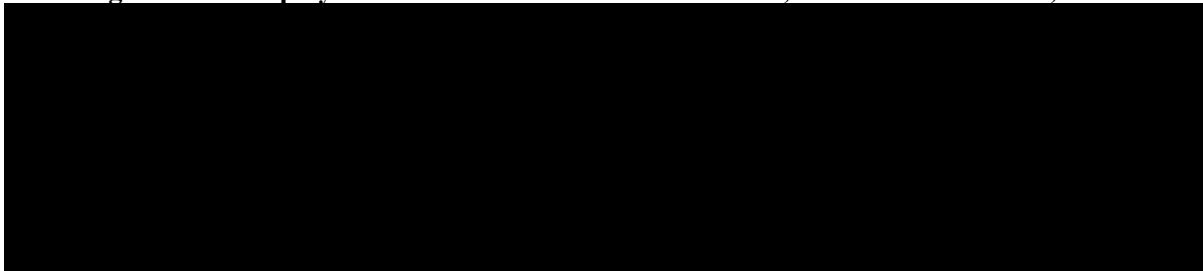
¹⁶⁹ GOOG-CABR-03635725, tabs "Display - conversion" and "Display - p13n"; GOOG-CABR-04324934 – 944 at 935 – 936. Notably, in the sub-section of the Ads Impact document specific to Display Ads conversion tracking, the "traffic fraction of [REDACTED]" is represented as [REDACTED]. See GOOG-CABR-04324934 – 944 at 940. This [REDACTED] traffic fraction can only be calculated as the product of a [REDACTED] Chrome traffic share and Google's assumed [REDACTED] Incognito traffic share. Further, in the file of supporting calculations, Mr. Liao commented that the impact for Display personalization was "derived using search traffic share [REDACTED] as opposed to display." See GOOG-CABR-03635725, tab "Display - p13n."

¹⁷⁰ I provide alternative calculations based on a [REDACTED] Chrome traffic share for Display Ads at Schedules 2.6 - B, 3.6 - B, and 4.6 - B.

Impact document appear to be fully visible in the underlying metadata, and those comments indicate that the [REDACTED] Chrome traffic share that Google assumed in its analysis of Search Ads reflected Chrome's "share on desktop," while Chrome's corresponding "share on Android" was [REDACTED].¹⁷¹ While these comments were specific to Google's analysis of Search Ads, I have conservatively adjusted the [REDACTED] traffic share underlying Google's analysis of Display Ads and YouTube Ads to reflect the same weighted traffic share for desktop and Android that I determined for Search Ads. As this weighting was based on Google data regarding Chrome pageloads by operating system, and Google documents indicate that Chrome's share on the iOS operating system [REDACTED]¹⁷², I conservatively assumed an 8% Chrome share of traffic on iOS.¹⁷³ The resulting mobile traffic (*i.e.*, from Android and iOS) was then further adjusted to exclude an indicated 45% share of "non-standard" traffic, including traffic attributable to the Google Search App ("GSA").¹⁷⁴ As detailed in the attached schedules, these adjustments result in a lower Chrome traffic share of approximately 56%.¹⁷⁵ Applying this traffic share to the previously discussed U.S. advertising revenues from Display Ads (adjusted to exclude revenues from in-app advertisements) results in Google's U.S. advertising revenues from Display Ads attributable to the Chrome browser.¹⁷⁶

67. Consistent with the methodology set forth in the Ads Impact document, I then apportioned the U.S. advertising revenues from Display Ads attributable to the Chrome browser to reflect the portion of that traffic specific to Incognito. As previously discussed, the Ads Impact document sets forth Google's assumed "Chrome 'Incognito Mode' traffic out of all Chrome traffic" (*i.e.*, [REDACTED]).¹⁷⁷ As this percentage reflects worldwide traffic and was based on a 28-day sample of partial-year 2020 data,¹⁷⁸ I have recalculated this Incognito traffic share using Google's recently produced data specific to the United States and covering the period August 1, 2020 through December 31, 2021. As detailed in Schedule 11.1, this data indicates an Incognito traffic share of approximately [REDACTED].¹⁷⁹ Applying this U.S.-specific Incognito traffic share to Google's U.S. advertising revenues from Display Ads attributable to the Chrome browser yields approximately [REDACTED] of Incognito U.S. Display Ads revenue from Chrome during the period June 1, 2016 through December 31, 2021:

Figure 25
Incognito U.S. Display Ads Revenue from Chrome: June 1, 2016 – December 31, 2021¹⁸⁰



¹⁷¹ See metadata for GOOG-CABR-04324934 – 944. This metadata appears to include the full content of "comments" that are partially visible on the Ads Impact document.

¹⁷² See, for example, GOOG-BRWN-00139742 – 756 at 745; GOOG-CABR-03842057 – 058 at 057.

¹⁷³ Schedule 14.14.

¹⁷⁴ Schedule 14.14.

¹⁷⁵ Schedule 14.14.

¹⁷⁶ Schedule 2.6.

¹⁷⁷ See, for example, GOOG-CABR-04324934 – 944 at 936.

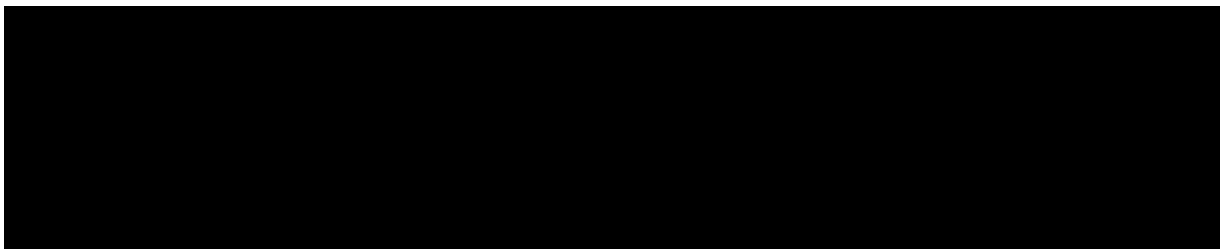
¹⁷⁸ See, for example, GOOG-CABR-04486714 at tabs "Timelines" and "Mainframe Page Loads Distributi" for reference to "28 day ending at."

¹⁷⁹ Schedule 11.1.

¹⁸⁰ Schedule 2.6.

68. As I understand that the alleged wrongful conduct was not limited to Incognito on the Chrome browser, I was asked to perform similar analyses to estimate Google's U.S. Display Ads revenues attributable to private browsing modes on certain competitive browsers. More specifically, I was asked to extrapolate the analysis described above to private browsing modes on Edge (including predecessor Internet Explorer) and Safari.¹⁸¹
69. In performing these calculations, I first apportioned the non-Chrome traffic share to these and other browsers as a function of their respective annual market shares.¹⁸² As previously discussed, while Google's ██████████ analysis assumes that Chrome accounts for ██████████ of Google Display Ads, YouTube Ads, and Search Ads traffic, I conservatively adjusted this Chrome traffic share to reflect the weighted traffic share for desktop and mobile, with further adjustments to isolate and exclude app-based traffic on mobile. As previously discussed, and detailed in the attached schedules, these adjustments resulted in a lower traffic share for the Chrome browser of approximately ██████████.¹⁸³ I therefore allocated the balance of traffic among other browsers and apps as a function of browser market share data as reported by Statcounter and Google indications of "non-standard" (*i.e.*, app-related) traffic.¹⁸⁴ In allocating the balance of traffic across other browsers and apps, I calculated and excluded the corresponding share of traffic from all browsers other than Edge/Internet Explorer and Safari as well as all app-related traffic.
70. These browser-specific traffic shares were then applied to the previously discussed U.S. advertising revenues from Display Ads. In the absence of other information from Google regarding the private browsing traffic percentages for Edge/Internet Explorer and Safari, I conservatively adjusted the previously discussed ██████████ U.S.-specific Incognito traffic share to reflect the relative rates of private browsing mode usage among Edge/Internet Explorer and Safari users as indicated by the results of a consumer survey performed by Mark Keegan, a survey expert retained on behalf of Plaintiffs.¹⁸⁵ These adjustments resulted in private browsing traffic shares of approximately ██████████% and ██████████ for Safari and Edge/Internet Explorer, respectively.¹⁸⁶ As detailed in the attached schedules, applying these private browsing rates to Google's U.S. advertising revenues from Display Ads attributable to the Edge/Internet Explorer and Safari browsers yields approximately ██████████ of additional Google U.S. Display Ads revenue from Other Private Browsing Modes during the period June 1, 2016 through December 31, 2021:

Figure 26
Private Browsing U.S. Display Ads Revenue from Edge/Internet Explorer and Safari:
June 1, 2016 – December 31, 2021¹⁸⁷



¹⁸¹ As used in this report, Edge includes Edge, Edge Legacy, Internet Explorer, and IE Mobile. See Schedule 14.10.

¹⁸² Schedules 14.1, 3.6, 4.6.

¹⁸³ Schedule 14.14.

¹⁸⁴ Schedules 17.7, 14.14, and 14.1. Google documents indicate that Google uses Statcounter browser metrics in the normal course of business. See, for example, GOOG-BRWN-00653907, tab "Browser Share by Platform."

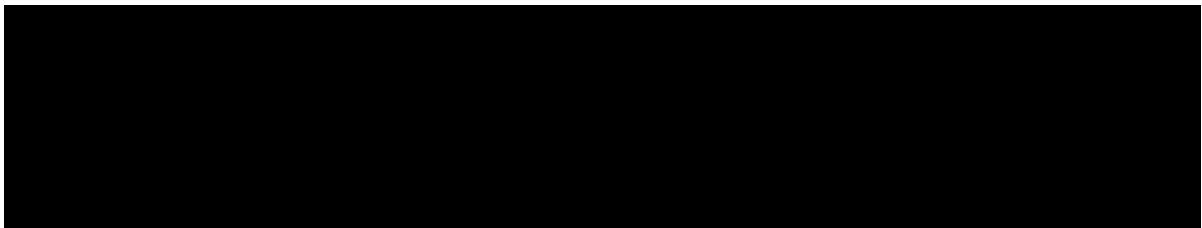
¹⁸⁵ Schedules 11.1 and 22.1. See also Keegan Report, Table 4.

¹⁸⁶ Schedule 22.1.

¹⁸⁷ Schedules 3.6, 4.6.

71. Finally, as I understand that the Class definitions in this matter include limitations for users with Google accounts who were in a private browsing mode while not logged into their Google accounts on that browser, I have made two additional adjustments to the private browsing revenue calculations described above. I first applied browser-specific factors to isolate revenue attributable to Google account holders.¹⁸⁸ More specifically, and based on the results of the previously discussed survey performed by Mr. Keegan, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.¹⁸⁹ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.¹⁹⁰ This [REDACTED] factor is consistent with an internal Google analysis from 2014 entitled “Incognito Searches and Logged In Incognito Searches” which indicated that approximately [REDACTED] of Chrome web searches in Incognito were “signed in.”¹⁹¹ The application of these factors yields approximately [REDACTED] of Google U.S. Display Ads revenue from Incognito and Other Private Browsing Modes during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 27
U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes,
Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021¹⁹²



7.2.2. Google U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Personalization

72. As indicated in the introductory paragraphs of Section 7.2, two of the three scenarios that I have investigated in relation to Google’s Display Ads product area include unjust enrichment from the alleged wrongful conduct attributable to personalization. As it relates to Google’s U.S. Display Ads revenues attributable to personalization, and consistent with the methodology that Google set forth in the Ads Impact document, the analyses described below measure the financial impact to Google if it had transitioned Incognito and Other Private Browsing Mode traffic from that with “short-term profiles” (*i.e.*, young cookies) to traffic without third-party cookies.
73. To quantify Google’s Incognito U.S. Display Ads revenue attributable to personalization, I first allocated the previously discussed Incognito U.S. Display Ads revenue from Chrome to revenue attributable to traffic with and without third-party cookies.¹⁹³ To perform this allocation, I first adjusted the Incognito U.S. Display Ads revenue from Chrome to reflect the expected ramp-up of the [REDACTED] implementation [REDACTED]

¹⁸⁸ Schedules 2.1, 3.1, 4.1.

¹⁸⁹ Schedules 2.1, 3.1, 4.1, 21.1 and Keegan Report, Table 7.

¹⁹⁰ Schedules 2.1, 3.1, 4.1.

¹⁹¹ GOOG-CABR-00035610 – 622 at 610, 617.

¹⁹² Schedules 2.1, 3.1, 4.1.

¹⁹³ Schedules 2.4 – 2.10.

█████.¹⁹⁴ I also adjusted the Incognito U.S. Display Ads Revenue to reflect the relative revenue contribution of traffic with and without third-party cookies.¹⁹⁵ While my adjustment in this regard is not included in the analysis set forth in the Ads Impact document and accompanying schedules, this adjustment reflects Google’s assumptions with respect to the █████ of traffic that had third-party cookies prior to the launch of █████ and the reduced revenue contribution of traffic without third-party cookies (*i.e.*, █████ of revenue from traffic with personalization).¹⁹⁶ The effect of the latter adjustment is to apportion approximately █████ of Incognito revenues to revenue with third-party cookies, as compared to the █████ apportionment that Google assumed in its analysis of the same.¹⁹⁷ My calculations in this regard are detailed in Schedules 2.4 through 2.10.

74. Consistent with the methodology set forth in the Ads Impact document, I then adjusted the resulting Incognito U.S. Display Ads revenue from traffic with third-party cookies to reflect Google’s determination of the █████ “relative contribution of short-term profiles.”¹⁹⁸ Based on my review of Google’s calculations, I understand that Google’s assumption in this regard implies that traffic from users with short-term (*i.e.*, young) cookies generates █████ of the revenue generated by the same amount of traffic from users with mature cookies. Adjusting for this “relative contribution of short-term profiles” results in Incognito U.S. Display Ads revenue adjusted for the share of revenue with third-party cookies and the relative contribution of short-term profiles.¹⁹⁹
75. As discussed above, with respect to revenues attributable to personalization, Google’s personalization analyses measure the financial impact from transitioning Incognito traffic from that with “short-term profiles” (*i.e.*, young cookies) to traffic without third-party cookies. It is therefore necessary to further adjust these Incognito U.S. Display Ads revenues by Google’s assumed █████ “revenue impact due to loss of personalization.”²⁰⁰ Adjusting for this “revenue impact due to loss of personalization” results in approximately █████ of Incognito U.S. Display Ads revenue from personalization during the period June 1, 2016 through December 31, 2021.²⁰¹
76. My calculations in this regard are summarized in the figure below:

¹⁹⁴ Schedule 2.10. See also GOOG-CABR-04324934 – 944 at 934.

¹⁹⁵ Schedules 2.4, 2.7 – 2.9.

¹⁹⁶ GOOG-CABR-04324934 – 944 at 940. Regarding the reduced revenue contribution of traffic without cookies, the Ads Impact document indicates that the █████ Based on my review of Google’s calculations, I understand that Google’s assumption in this regard implies that for a given volume of traffic, traffic from users without cookies generates █████ of the revenue generated by traffic from users with cookies.

¹⁹⁷ Schedule 2.7.

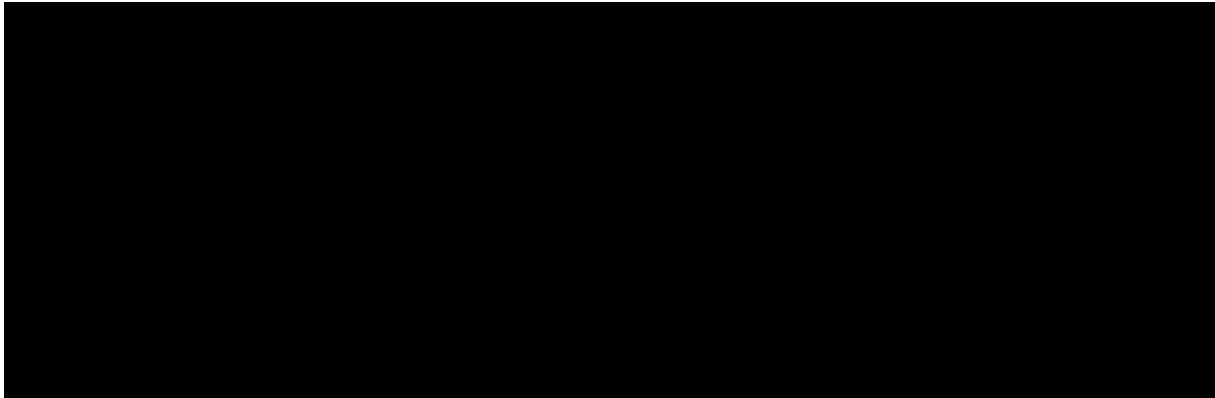
¹⁹⁸ GOOG-CABR-04324934 – 944 at 940.

¹⁹⁹ Schedule 2.4.

²⁰⁰ GOOG-CABR-04324934 – 944 at 940.

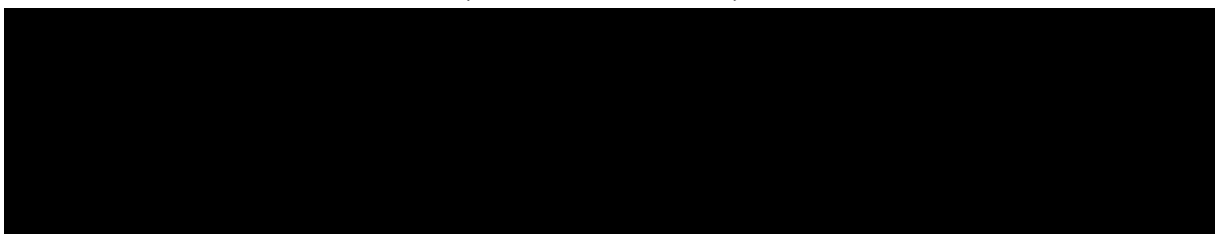
²⁰¹ Schedule 2.4.

Figure 28
Incognito U.S. Display Ads Revenue Attributable to Personalization:
June 1, 2016 – December 31, 2021²⁰²



77. I then performed similar analyses to determine Google’s U.S. Display Ads revenue from Other Private Browsing Modes attributable to personalization. As detailed in the attached schedules, these analyses differed from the above in that they reflected each browser’s respective traffic share, each browser’s indicated rate of private browsing mode usage (*i.e.*, [REDACTED] for Safari and [REDACTED] for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default. More specifically:
- For Edge/Internet Explorer, third-party cookies were blocked on January 15, 2020.²⁰³ I have therefore assumed that 50% of third-party cookies were blocked in January 2020, and 100% of third-party cookies were blocked thereafter.
 - For Safari, I assumed that 75% of third-party cookies were blocked starting in June 2017 and that this remained constant until April 2020, after which 100% of third-party cookies were blocked. This assumption is consistent with Google documents indicating that Safari blocked “most third-party tracking cookies” with the rollout of ITP 1.0 in June 2017 and Safari’s announcement that third-party cookies were fully blocked as of March 24, 2020.²⁰⁴
78. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. Display Ads revenue from Other Private Browsing Modes attributable to personalization during the period June 1, 2016 through December 31, 2021:

Figure 29
U.S. Display Ads Revenue from Other Private Browsing Modes
Attributable to Personalization:
June 1, 2016 – December 31, 2021²⁰⁵



²⁰² Schedule 2.4.

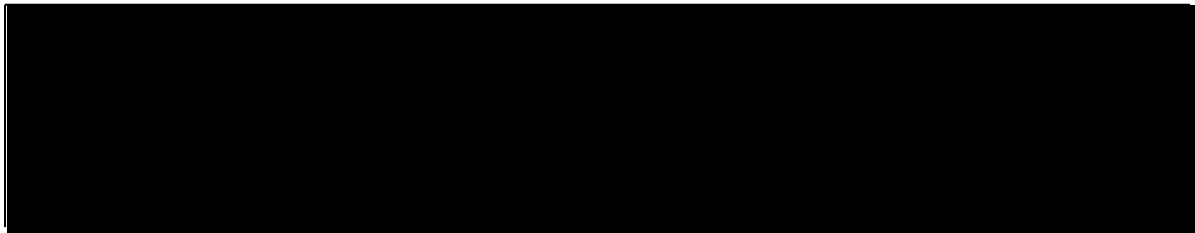
²⁰³ GOOG-CABR-04588763 – 820 at 781; GOOG-CABR-04820567 – 602 at 583.

²⁰⁴ GOOG-CABR-04588763 – 820 at 778; GOOG-CABR-00141714 – 721 at 717.

²⁰⁵ Schedules 3.4, 4.4.

79. As I understand that the Class definitions in this matter include limitations for users with Google accounts who were in a private browsing mode while not logged into their Google accounts on that browser, I again made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁰⁶ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁰⁷ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²⁰⁸ The application of these factors yields approximately [REDACTED] of Google U.S. Display Ads revenue from Incognito and Other Private Browsing Modes attributable to personalization during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 30
U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Personalization and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁰⁹



7.2.3. U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Conversion Tracking from All Traffic

80. As indicated in the introductory paragraphs of Section 7.2, the second scenario that I investigated in relation to Google's Display Ads product area includes unjust enrichment from the alleged wrongful conduct attributable to conversion tracking from all traffic. The analyses described below therefore measure Google autobidding revenue attributable to conversion tracking from all traffic through Incognito and Other Private Browsing Modes (as compared to the subset of autobidding revenue driven solely by conversion tracking from traffic with third-party cookies).
81. In order to quantify Google's Incognito U.S. Display Ads revenue attributable to conversion tracking from all traffic, I adjusted the previously discussed Incognito U.S. Display Ads revenues from all traffic to reflect Google's determination of the portion of Display Ads revenue attributable to autobidding and driven by conversion tracking. More specifically, in its assessment of the revenue impact specific to Display Ads and conversion tracking, Google's "revenue impact ratio" was calculated, in part, as a function of a [REDACTED]²¹⁰ As discussed in Section 7.2.4 below, Google's revenue impact ratio also reflected an apportionment for traffic with third-party cookies,²¹¹ but that additional

²⁰⁶ Schedules 2.1, 3.1, 4.1.

²⁰⁷ Schedules 2.1, 3.1, 4.1, 21.1 and Keegan Report, Table 7.

²⁰⁸ Schedules 2.1, 3.1, 4.1.

²⁰⁹ Schedules 2.1, 3.1, 4.1.

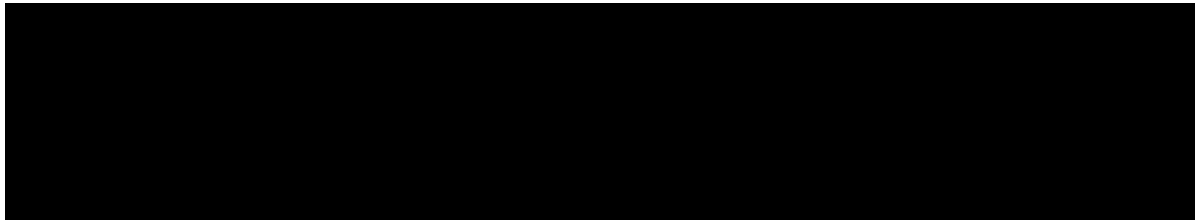
²¹⁰ GOOG-CABR-04324934 – 944 at 940.

²¹¹ GOOG-CABR-04324934 – 944 at 940.

apportionment is necessarily omitted in this analysis of Incognito U.S. Display Ads revenue attributable to conversion tracking from all traffic.

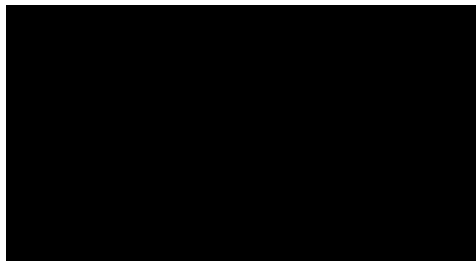
82. Applying this [REDACTED]²¹² factor to the previously discussed Incognito U.S. Display Ads revenues from all traffic yields approximately [REDACTED] of total Incognito U.S. Display Ads revenue from conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

Figure 31
Incognito U.S. Display Ads Revenue Attributable to Conversion Tracking from All Traffic:
June 1, 2016 – December 31, 2021²¹³



83. I then performed similar analyses to determine Google's U.S. Display Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic. As detailed in the attached schedules, these analyses differed from the above in that they reflected each browser's respective traffic share, each browser's indicated rate of private browsing mode usage (*i.e.*, [REDACTED] for Safari and [REDACTED] for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
84. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. Display Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

Figure 32
U.S. Display Ads Revenue from Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic: June 1, 2016 – December 31, 2021²¹⁴



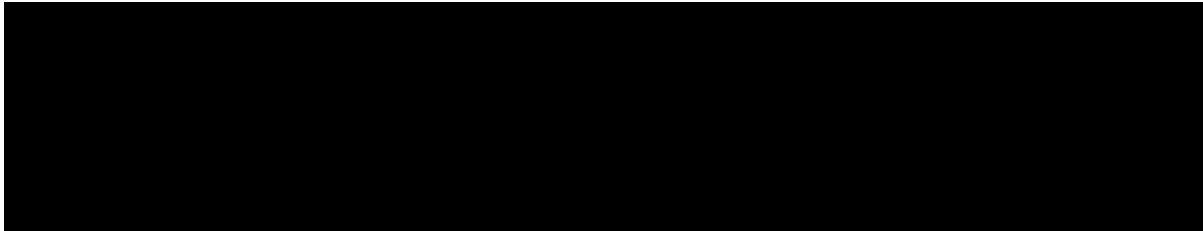
²¹² I have applied the autobidding factor that the Ads Impact document sets forth for Google's calculation of Conversion Tracking as a proxy of Conversion Tracking for All Traffic.

²¹³ Schedule 2.3. While this calculation is consistent with Google's methodology as set forth in the Ads Impact document, I note that there may be a double counting of revenue impacts attributable to personalization and conversion tracking embedded in Google's methodology. I have therefore prepared calculations setting forth an alternative methodology that may mitigate this potential double count, to the extent it exists. This alternative methodology involves an additional step in which the previously determined Incognito U.S. Display Ads revenue from personalization is deducted from Incognito U.S. Display Ads revenue from all traffic prior to the application of the necessary apportionment factor(s). See Schedule 2.3-Aii.

²¹⁴ Schedules 3.3, 4.3.

85. I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²¹⁵ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²¹⁶ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²¹⁷ The application of these factors yields approximately [REDACTED] of Google U.S. Display Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 33
U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²¹⁸



7.2.4. U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Conversion Tracking from Traffic with Third-Party Cookies

86. As indicated in the introductory paragraphs of Section 7.2, the third scenario that I investigated in relation to Google's Display Ads product area includes unjust enrichment from the alleged wrongful conduct that is specifically attributable to conversion tracking from traffic with third-party cookies. The analyses described below therefore measure the subset of Google autobidding revenue attributable to conversion tracking from traffic with third-party cookies through Incognito and Other Private Browsing Modes. These analyses therefore entail further apportionment of the previously discussed U.S. Display Ads revenue from Incognito and Other Private Browsing Modes to that which is specifically attributable to traffic with third-party cookies.
87. Consistent with the methodology set forth in the Ads Impact document, Incognito U.S. Display Ads revenue is apportioned to reflect the previously discussed expected ramp up of the [REDACTED] implementation, Google's determination of both the [REDACTED]

²¹⁵ Schedules 2.1, 3.1, 4.1.

²¹⁶ Schedules 21.1, 2.1, 3.1, 4.1 and Keegan Report, Table 7.

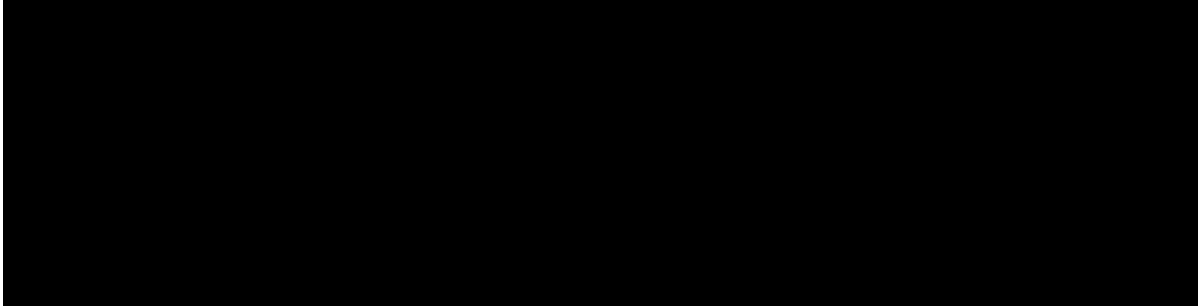
²¹⁷ Schedules 2.1, 3.1, 4.1.

²¹⁸ Schedules 2.1, 3.1, 4.1.

██████████,” and the share of Display Ads traffic with cookies that is covered only by third-party cookies (*i.e.*, ██████████).²¹⁹

88. Applying these factors yields approximately ██████████ of total Incognito U.S. Display Ads revenue attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

Figure 34
Incognito U.S. Display Ads Revenue Attributable to
Conversion Tracking from Traffic with Third-Party Cookies:
June 1, 2016 – December 31, 2021²²⁰



89. I then performed similar analyses to determine Google’s U.S. Display Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies. As detailed in the attached schedules, these analyses differed from the above in that they reflected each browser’s respective traffic share, each browser’s indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
90. As detailed in the attached schedules, my analyses indicate that Google generated approximately ██████████ of U.S. Display Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

²¹⁹ Schedule 2.11. As indicated in the Ads Impact document, Google’s determination in this regard was based on the difference in conversion tracking between “DV3” traffic, “non-DV3” traffic, and the “traffic fraction of conversion not tracked via sitewide tagging.” See GOOG-CABR-04324934 – 944 at 940. I understand that the acronym “DV3” refers to Google Display & Video 360, a Google marketing platform. See, for example, “Google Display & Video 360” per End to End Campaign Management at <https://marketingplatform.google.com/about/display-video-360/> (accessed March 15, 2022).

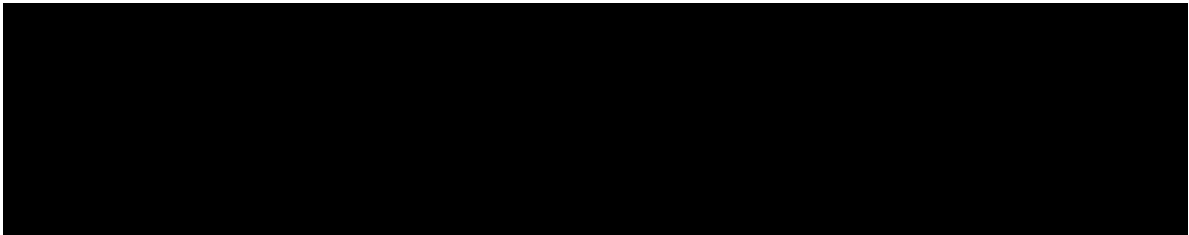
²²⁰ Schedule 2.2. Again, while this calculation is consistent with Google’s methodology as set forth in the Ads Impact document, I note that there may be a double counting of revenue impacts attributable to personalization and conversion tracking embedded in Google’s methodology. I have therefore prepared calculations setting forth an alternative methodology that may mitigate this potential double count, to the extent it exists. This alternative methodology involves an additional step in which the previously determined Incognito U.S. Display Ads revenue from personalization is deducted from Incognito U.S. Display Ads revenue not impacted by the implementation of ██████████ prior to the application of the necessary apportionment factor(s). See Schedules 2.2-Aii.

Figure 35
U.S. Display Ads Revenue from Other Private Browsing Modes Attributable to
Conversion Tracking from Traffic With Third-Party Cookies:
June 1, 2016 – December 31, 2021²²¹



91. Once again, I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²²² More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²²³ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²²⁴ The application of these factors yields approximately [REDACTED] of Google U.S. Display Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 36
U.S. Display Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from Traffic With Third-Party Cookies
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²²⁵



7.3. Analysis of Google's U.S. YouTube Ads Revenues Attributable to Private Browsing Modes

92. As previously discussed, and to assist the trier of fact in determining Google's unjust enrichment under a range of potential liability scenarios, I segmented my analyses of Google's unjust enrichment by Google product area, private browsing mode, revenue source, and the scope of conversion tracking. With respect to the YouTube Ads product area, the analyses set forth in the Ads Impact document and Google's internal communications regarding the same indicate that Google personnel assessed, anticipated, and quantified a loss of certain YouTube Ads-related

²²¹ Schedules 3.2, 4.2.

²²² Schedules 2.1, 3.1, 4.1.

²²³ Schedules 21.1, 2.1, 3.1, 4.1 and Keegan Report, Table 7.

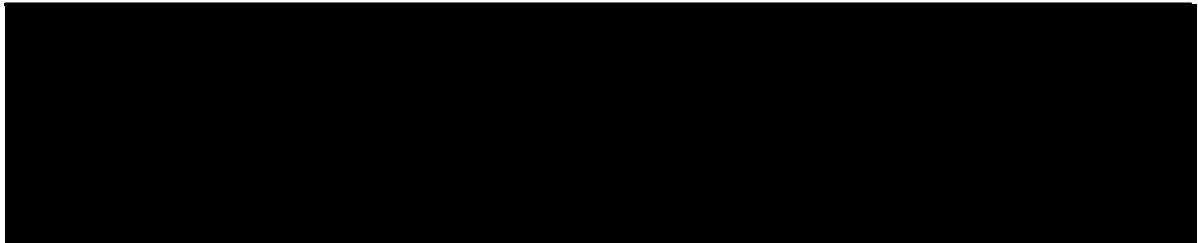
²²⁴ Schedules 2.1, 3.1, 4.1.

²²⁵ Schedules 2.1, 3.1, 4.1.

revenues due to the [REDACTED] implementation (*i.e.*, the blocking of third-party cookies by default within Incognito).

93. As it relates to Google's unjust enrichment from the alleged wrongful conduct and YouTube Ads, I sought to separately quantify Google's unjust enrichment under the assumption that the alleged wrongful conduct enabled Google to be unjustly enriched by an amount equal to one of the following:
- Google U.S. YouTube Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes attributable to personalization from traffic with third-party cookies and conversion tracking from all traffic (*i.e.*, including sitewide tagging); or
 - Google U.S. YouTube Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes attributable to personalization from traffic with third-party cookies and conversion tracking from traffic with third-party cookies.
94. My analysis of each of these scenarios is based on Google's May 2020 analysis of the financial impact of [REDACTED] as represented in the Ads Impact document, summarized in the figure below, and detailed in the subsequent sections of this report and corresponding schedules.

Figure 37
Summary of Google's Unjust Enrichment from
U.S. YouTube Ads Revenues Attributable to Alleged Wrongful Conduct by Liability Scenario:
June 1, 2016 – December 31, 2021²²⁶



7.3.1. U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Personalization

95. As indicated in the introductory paragraphs of Section 7.3, both of the scenarios that I have investigated in relation to Google's YouTube Ads product area include unjust enrichment from the alleged wrongful conduct attributable to personalization. As it relates to Google's U.S. YouTube Ads revenues attributable to personalization, and consistent with the methodology that Google set forth in the Ads Impact document, the analyses described below measure the financial impact to Google if it had transitioned Incognito and Other Private Browsing Mode traffic from that with "short-term profiles" (*i.e.*, young cookies) to traffic without third-party cookies.

²²⁶ Schedules 1.1, 1.3. Consistent with the analyses set forth in the Ads Impact document and Google's internal communications regarding the same, I have measured the financial impact to Google of the [REDACTED] implementation and Google's unjust enrichment attributable to the alleged wrongful conduct in terms of revenue. As of the filing of this report, I am not aware of information from Google sufficient to allow for the determination and deduction of incremental costs, if any. To the extent that Google or its experts identify documents indicating that a deduction of incremental costs may be appropriate and that those costs can be accurately calculated, I reserve the right to review that information and amend my analyses, if necessary.

96. In order to quantify Google's Incognito U.S. YouTube Ads revenue attributable to personalization, I first quantified Incognito U.S. YouTube Ads revenue from Chrome. As previously discussed, Alphabet publicly reports worldwide annual revenues attributable to "YouTube Ads."²²⁷ As detailed in the attached schedules, I used Alphabet's publicly reported "Revenues by Geography" to isolate the U.S. portion of YouTube Ads revenues for the period June 1, 2016 through December 31, 2021.²²⁸ I then isolated the portion of U.S. revenues attributable to the Chrome browser by applying the previously discussed Chrome traffic share of approximately [REDACTED].²²⁹ I then allocated the Incognito U.S. YouTube Ads revenue from Chrome into revenue attributable to traffic with and without third-party cookies.²³⁰ As with my similar allocation of Incognito U.S. Display Ads revenue, this allocation included adjustments for the expected ramp-up of the [REDACTED] implementation and the relative revenue contribution of traffic with and without third-party cookies.²³¹
97. Consistent with the methodology set forth in the Ads Impact document, a further apportionment was then made to isolate the portion of YouTube traffic attributable to "embedded players." More specifically, the Ads Impact document represents that "*YouTube Ads personalization does not rely on 3P cookies on youtube.com [but] [e]mbedded players may see breakages under [REDACTED] in terms of personalization for organic videos as well as ads.*"²³² The Ads Impact document also represents that the "*Traffic fraction of embedded players [is] (0.1%).*"²³³ While Google did not go on to calculate a dollar value impact specific to YouTube and personalization in the Ads Impact document, I applied this 0.1% apportionment factor and continued with the methodology implied in the Ads Impact document.
98. More specifically, and based on Google's presentation of the dollar value impact specific to Display and personalization in the Ads Impact document, I adjusted the Incognito U.S. YouTube Ads revenue from embedded traffic with third-party cookies to reflect Google's determination of the [REDACTED] "relative contribution of short-term profiles."²³⁴ Adjusting for this "relative contribution of short-term profiles" results in Incognito U.S. YouTube Ads revenue from embedded traffic adjusted for the share of revenue with third-party cookies and the relative contribution of short-term profiles.²³⁵ I then further adjusted these Incognito U.S. YouTube Ads revenues by Google's assumed [REDACTED] "revenue impact due to loss of personalization."²³⁶ Adjusting for this "revenue impact due to loss of personalization" results in approximately [REDACTED] of Incognito U.S. YouTube Ads revenue from personalization during the period June 1, 2016 through December 31, 2021.²³⁷
99. My calculations in this regard are summarized in the figure below:

²²⁷ See, for example, Alphabet Inc. SEC Form 10-K for the fiscal year ended December 31, 2021, p. 33.

²²⁸ Schedule 12.2.

²²⁹ Schedule 14.14.

²³⁰ Schedule 5.4. I note that the adjustment for the relative revenue contribution of traffic with and without third-party cookies assumes the same apportionment factor (*i.e.*, approximately 83%) from my analysis of Display Ads revenue.

²³¹ Schedules 5.4 and 5.5.

²³² GOOG-CABR-04324934 – 944 at 938.

²³³ GOOG-CABR-04324934 – 944 at 938.

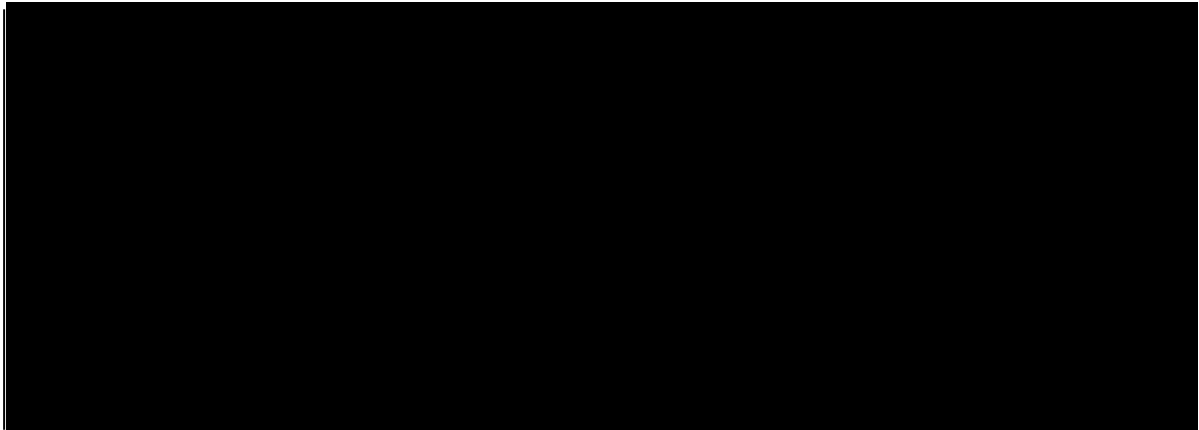
²³⁴ GOOG-CABR-04324934 – 944 at 940.

²³⁵ Schedule 5.4.

²³⁶ GOOG-CABR-04324934 – 944 at 940.

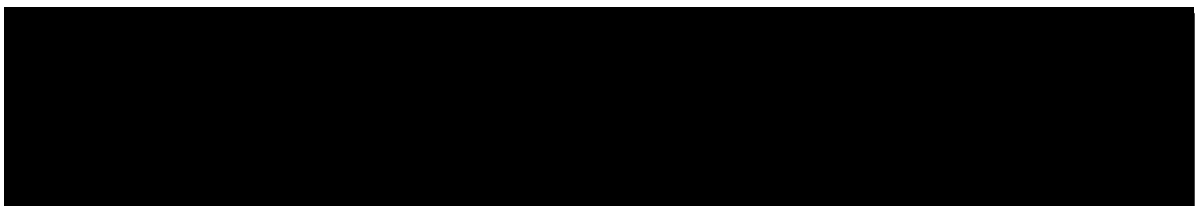
²³⁷ Schedule 5.4.

Figure 38
Incognito U.S. YouTube Ads Revenue Attributable to Personalization:
June 1, 2016 – December 31, 2021²³⁸



100. I then performed similar analyses to determine Google’s U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to personalization. As with my analyses regarding U.S. Display Ads, these analyses differed from the above in that they reflected each browser’s respective traffic share, each browser’s indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
101. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to personalization during the period June 1, 2016 through December 31, 2021:

Figure 39
U.S. YouTube Ads Revenue from Other Private Browsing Modes
Attributable to Personalization:
June 1, 2016 – December 31, 2021²³⁹



102. As I understand that the Class definitions in this matter include limitations for users with Google accounts who were in a private browsing mode while not logged into their Google accounts on that browser, I again made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁴⁰ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁴¹ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google

²³⁸ Schedule 5.4.

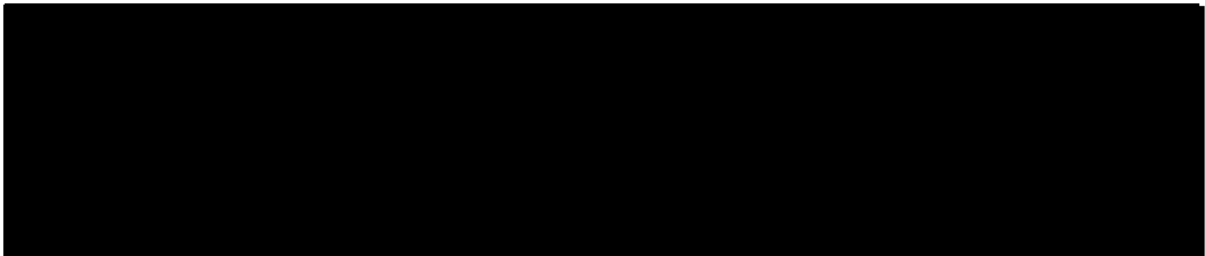
²³⁹ Schedules 6.4, 7.4.

²⁴⁰ Schedules 5.1, 6.1, 7.1.

²⁴¹ Schedules 21.1, 5.1, 6.1, 7.1 and Keegan Report, Table 7.

account holders who were signed out of their account on the browser while in a private browsing mode.²⁴² The application of these factors yields approximately [REDACTED] of Google U.S. YouTube Ads revenue from Incognito and Other Private Browsing Modes attributable to personalization during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 40
U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Personalization and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁴³



7.3.2. U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic

103. As indicated in the introductory paragraphs of Section 7.3, the first scenario that I investigated in relation to Google's YouTube Ads product area includes unjust enrichment from the alleged wrongful conduct attributable to conversion tracking from all traffic. The analyses described below therefore measure Google autobidding revenue attributable to conversion tracking from all traffic through Incognito and Other Private Browsing Modes (as compared to the subset of autobidding revenue driven solely by conversion tracking from traffic with third-party cookies).
104. In order to quantify Google's Incognito U.S. YouTube Ads revenue attributable to conversion tracking from all traffic, I adjusted the previously quantified Incognito U.S. YouTube Ads revenues from all traffic to reflect Google's determination of the portion of YouTube Ads revenue attributable to autobidding driven by conversion tracking. More specifically, in its contemporaneous analyses, Google assumed that [REDACTED]²⁴⁴ As discussed in Section 7.3.3 below, Google's revenue impact ratio as represented in the Ads Impact document also reflected an apportionment for traffic with third-party cookies,²⁴⁵ but that additional apportionment is necessarily omitted in this analysis of Incognito U.S. YouTube Ads revenue attributable to conversion tracking from all traffic.
105. Applying this [REDACTED] apportionment factor to the previously quantified Incognito U.S. YouTube Ads revenues from all traffic yields approximately [REDACTED] of total Incognito U.S.

²⁴² Schedules 5.1, 6.1, 7.1.

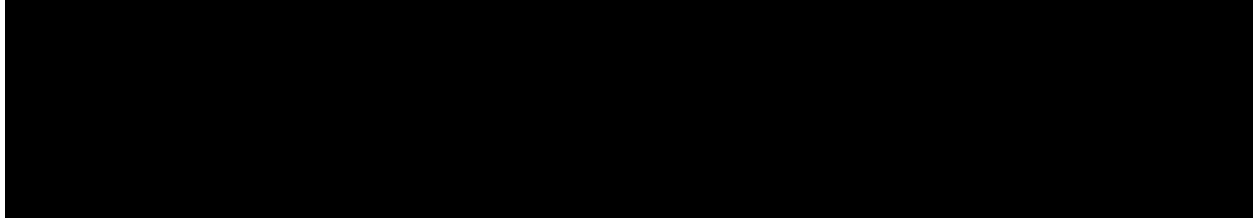
²⁴³ Schedules 5.1, 6.1, 7.1.

²⁴⁴ GOOG-CABR-03635725, tab "YouTube." Within the analysis underlying the Ads Impact document, Google applied this autobidding factor to revenues from traffic with third-party cookies. In this analysis, this same factor is applied to revenues from all traffic.

²⁴⁵ GOOG-CABR-04324934 – 944 at 939.

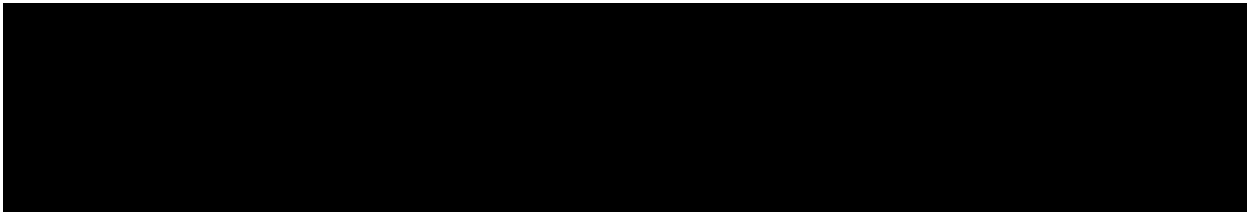
YouTube Ads revenue attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

Figure 41
Incognito U.S. YouTube Ads Revenue Attributable to Conversion Tracking from All Traffic:
June 1, 2016 – December 31, 2021²⁴⁶



106. I then performed similar analyses to determine Google's U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic. As previously discussed, these analyses differed from the above in that they reflected each browser's respective traffic share, each browser's indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
107. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

Figure 42
U.S. YouTube Ads Revenue from Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic: June 1, 2016 – December 31, 2021²⁴⁷



108. I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁴⁸ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁴⁹ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²⁵⁰ The application of these

²⁴⁶ Schedule 5.3. While this calculation is consistent with Google's methodology as set forth in the Ads Impact document, I note that there may be a double counting of revenue impacts attributable to personalization and conversion tracking embedded in Google's methodology. I have therefore prepared calculations setting forth an alternative methodology that may mitigate this potential double count, to the extent it exists. This alternative methodology involves an additional step in which the previously determined Incognito U.S. YouTube Ads revenue from personalization is deducted from Incognito U.S. YouTube Ads revenue from all traffic prior to the application of the necessary apportionment factor(s). See Schedule 5.3-ii.

²⁴⁷ Schedules 6.3, 7.3.

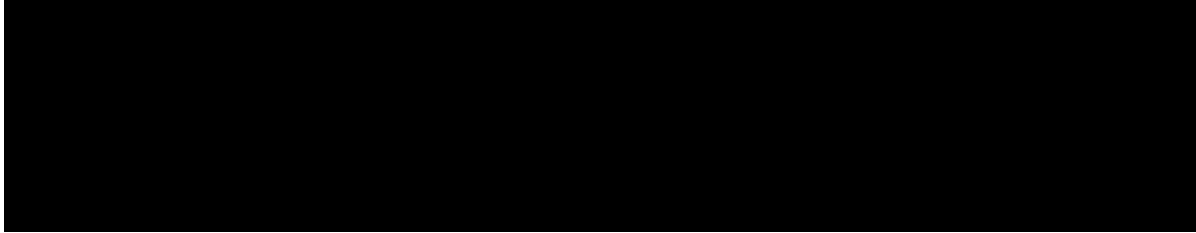
²⁴⁸ Schedules 5.1, 6.1, 7.1.

²⁴⁹ Schedules 21.1, 5.1, 6.1, 7.1 and Keegan Report, Table 7.

²⁵⁰ Schedules 5.1, 6.1, 7.1.

factors yields approximately [REDACTED] of Google U.S. YouTube Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 43
U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁵¹



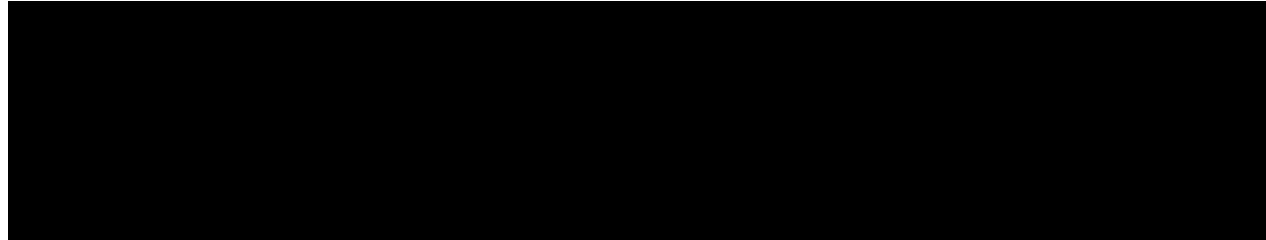
7.3.3. U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from Traffic with Third-Party Cookies

109. As indicated in the introductory paragraphs of Section 7.3, the second scenario that I investigated in relation to Google's YouTube Ads product area includes unjust enrichment from the alleged wrongful conduct that is specifically attributable to conversion tracking from traffic with third-party cookies. The analyses described below therefore measure the subset of Google autobidding revenue attributable to conversion tracking from traffic with third-party cookies through Incognito and Other Private Browsing Modes. These analyses therefore entail further apportionment of the previously discussed U.S. YouTube Ads revenue from Incognito and Other Private Browsing Modes to isolate the portion that is specifically attributable to traffic with third-party cookies.
110. Consistent with the methodology set forth in the Ads Impact document, Incognito U.S. YouTube Ads revenue is then apportioned to reflect the previously discussed expected ramp up of the [REDACTED] Implementation and Google's determination of both the [REDACTED] apportionment for autobidding, and the share of YouTube Ads traffic with cookies that is covered only by third-party cookies (*i.e.*, [REDACTED]).²⁵²
111. Applying these factors yields approximately [REDACTED] of total Incognito U.S. YouTube Ads revenue attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

²⁵¹ Schedules 5.1, 6.1, 7.1.

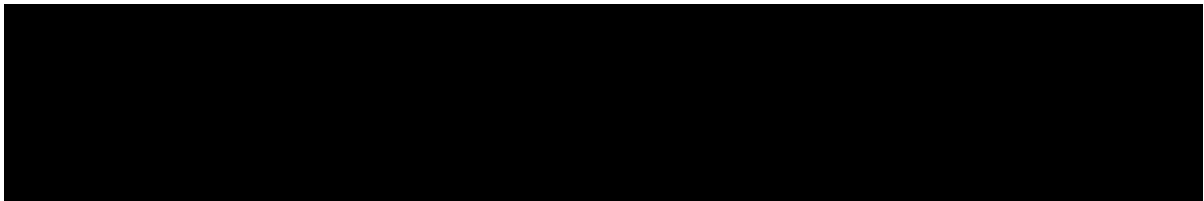
²⁵² GOOG-CABR-04324934 – 944 at 939.

Figure 44
Incognito U.S. YouTube Ads Revenue Attributable to
Conversion Tracking from Traffic with Third-Party Cookies:
June 1, 2016 – December 31, 2021²⁵³



112. I then performed similar analyses to determine Google's U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies. Once again, these analyses differed from the above in that they reflected each browser's respective traffic share, each browser's indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
113. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. YouTube Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

Figure 45
U.S. YouTube Ads Revenue from Other Private Browsing Modes Attributable to
Conversion Tracking from Traffic With Third-Party Cookies:
June 1, 2016 – December 31, 2021²⁵⁴



114. Once again, I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁵⁵ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁵⁶ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders

²⁵³ Schedule 5.2. Again, while this calculation is consistent with Google's methodology as set forth in the Ads Impact document, I note that there may be a double counting of revenue impacts attributable to personalization and conversion tracking embedded in Google's methodology. I have therefore prepared calculations setting forth an alternative methodology that may mitigate this potential double count, to the extent it exists. This alternative methodology involves an additional step in which the previously determined Incognito U.S. YouTube Ads revenue from personalization is deducted from Incognito U.S. YouTube Ads revenue not impacted by the implementation of [REDACTED] prior to the application of the necessary apportionment factor(s). See Schedule 5.2-ii.

²⁵⁴ Schedules 6.2, 7.2.

²⁵⁵ Schedules 5.1, 6.1, 7.1.

²⁵⁶ Schedules 21.1, 5.1, 6.1, 7.1 and Keegan Report, Table 7.

who were signed out of their account on the browser while in a private browsing mode.²⁵⁷ The application of these factors yields approximately [REDACTED] of Google U.S. YouTube Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 46
U.S. YouTube Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from Traffic With Third-Party Cookies
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁵⁸



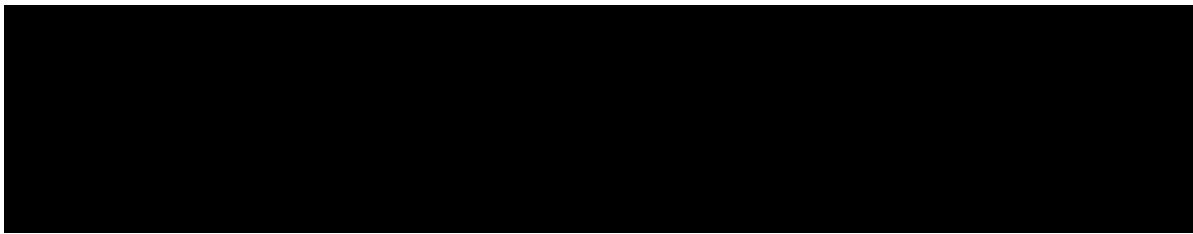
7.4. Analysis of Google's U.S. Search Ads Revenues Attributable to Private Browsing Modes

115. As previously discussed, and to assist the trier of fact in determining Google's unjust enrichment under a range of potential liability scenarios, I segmented my analyses of Google's unjust enrichment by Google product area, private browsing mode, revenue source, and the scope of conversion tracking. With respect to the Search Ads product area, the analyses set forth in the Ads Impact document and Google's internal communications regarding the same indicate that Google personnel assessed, anticipated, and quantified a loss of certain Search Ads-related revenues due to the [REDACTED] implementation (*i.e.*, the blocking of third-party cookies by default within Incognito).
116. As it relates to Google's unjust enrichment from the alleged wrongful conduct and Search Ads, I sought to separately quantify Google's unjust enrichment under the assumption that the alleged wrongful conduct enabled Google to be unjustly enriched by an amount equal to one of the following:
- Google U.S. Search Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes attributable to conversion tracking from all traffic (*i.e.*, including sitewide tagging); or
 - Google U.S. Search Ads revenues generated from user browsing activities in Incognito Mode and Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies.
117. My analysis of each of these scenarios is based on Google's May 2020 analysis of the financial impact of [REDACTED] as represented in the Ads Impact document, summarized in the figure below, and detailed in the subsequent sections of this report and corresponding schedules.

²⁵⁷ Schedules 5.1, 6.1, 7.1.

²⁵⁸ Schedules 5.1, 6.1, 7.1.

Figure 47
Summary of Google's Unjust Enrichment from
U.S. Search Ads Revenues Attributable to Alleged Wrongful Conduct by Liability Scenario:
June 1, 2016 – December 31, 2021²⁵⁹



7.4.1. U.S. Search Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Conversion Tracking from All Traffic

118. As indicated in the introductory paragraphs of Section 7.4, the first scenario that I investigated in relation to Google's Search Ads product area includes unjust enrichment from the alleged wrongful conduct attributable to conversion tracking from all traffic. The analyses described below therefore measure Google's autobidding revenue attributable to conversion tracking from all traffic through Incognito and Other Private Browsing Modes (as compared to the subset of autobidding revenue driven solely by conversion tracking from traffic with third-party cookies).
119. As an initial step of this analysis, I first quantified Incognito U.S. Search Ads revenue from Chrome in a manner consistent with my quantification of Incognito U.S. Display Ads revenue and Incognito U.S. YouTube Ads revenue from Chrome.²⁶⁰ Alphabet publicly reports worldwide annual revenues attributable to "Google Search & Other."²⁶¹ I first isolated "Search" from "Other" based on the 2020 revenue forecasts detailed in the file of calculations supporting the Ads Impact document.²⁶² More specifically, and as detailed in the attached schedules, this file indicates that "Search" represents approximately [REDACTED] of the combined 2020 revenues for "Search" and "Play+Gmail."²⁶³ I therefore first applied a factor of approximately 95.8% before applying a further apportionment to isolate U.S. revenues. As detailed in the attached schedules, I then used Alphabet's publicly reported "Revenues by Geography" to estimate U.S. Search Ads revenues for the period starting June 1, 2016 through December 31, 2021.²⁶⁴ I then isolated the

²⁵⁹ Schedules 1.1, 1.3. Consistent with the analyses set forth in the Ads Impact document and Google's internal communications regarding the same, I have measured the financial impact to Google of the [REDACTED] implementation and Google's unjust enrichment attributable to the alleged wrongful conduct in terms of revenue. As of the filing of this report, I am not aware of information from Google sufficient to allow for the determination and deduction of incremental costs, if any. To the extent that Google or its experts identify documents indicating that a deduction of incremental costs may be appropriate and that those costs can be accurately calculated, I reserve the right to review that information and amend my analyses, if necessary.

²⁶⁰ Schedule 8.5.

²⁶¹ See, for example, Alphabet Inc. SEC Form 10-K for the fiscal year ended December 31, 2021, p. 33. Alphabet also states that the "Google Search & Other" category "includes revenues generated on Google search properties (including revenues from traffic generated by search distribution partners who use Google.com as their default search in browsers, toolbars, etc.), and other Google owned and operated properties like Gmail, Google Maps, and Google Play." See Alphabet Inc. SEC Form 10-K for the fiscal year ended December 31, 2021, p. 29.

²⁶² Schedule 13.2.

²⁶³ Schedule 13.3. See also GOOG-CABR-03635725, tab "Sheet5".

²⁶⁴ Schedule 12.3.

portion of U.S. revenues attributable to the Chrome browser by applying the previously discussed Chrome traffic share of approximately [REDACTED].²⁶⁵

120. I then applied Google's determination of the share of Search Ads revenue attributable to conversion tracking from all traffic (*i.e.*, [REDACTED] for 2020 and 2021).²⁶⁶ As represented in the Ads Impact document, this [REDACTED] apportionment factor was calculated as a function of: 1) the share of Search Ads revenue that Google attributes to autobidding (*i.e.*, [REDACTED] 2) the share of Search Ads revenue that Google attributes to manual bidding (*i.e.*, [REDACTED] and 3) Google's assumed discounted impact to manual bidding revenue from the loss of conversion tracking (*i.e.*, 40%):

Figure 48
Portion of Ads Impact Document Relevant to Search Ads and Conversion Tracking²⁶⁷



121. Consistent with the methodology set forth in Google's Ads Impact document, I applied this [REDACTED] apportionment factor to the previously quantified Incognito U.S. Search Ads revenues from all traffic for the two-year period between January 1, 2020 through December 31, 2021. Consistent with notes included in the "worklog" section of the Ads Impact document, however, I calculated and applied a lower apportionment factor for the period June 1, 2016 through December 31, 2019.²⁶⁸ More specifically, notes within the "worklog" of the Ads Impact document indicate that [REDACTED] I have therefore calculated an apportionment factor for the share of Search Ads revenue attributable to conversion tracking from all traffic for the period June 1, 2016 through December 31, 2019 by substituting the [REDACTED] share of conversion-based autobidding in place of the [REDACTED] share assumed by Google for 2020 and 2021.²⁷⁰ This results in a [REDACTED] apportionment factor for the period June 1, 2016 through December 31, 2019.²⁷¹ Applying these apportionment factors to the previously quantified Incognito U.S. Search Ads revenues from all traffic yields approximately [REDACTED] of total Incognito U.S. Search Ads revenue attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

²⁶⁵ Schedules 14.14 and 8.5.

²⁶⁶ Within the analysis underlying the Ads Impact document, Google applied this autobidding factor to revenues from traffic with third-party cookies. In this analysis, this same factor is applied to revenues from all traffic. See Schedules 8.3 and 8.7.

²⁶⁷ GOOG-CABR-04324934 – 944 at 938. See also Schedule 8.7.

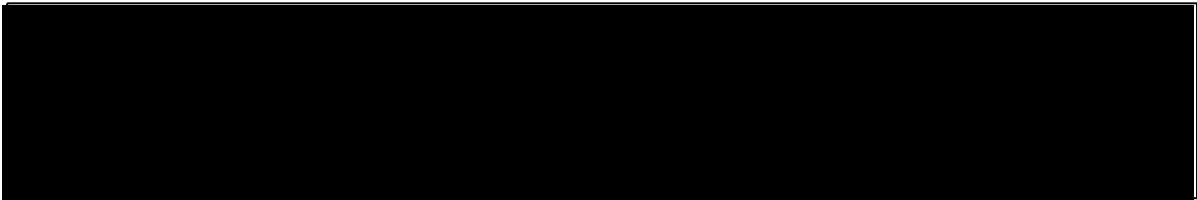
²⁶⁸ Schedule 8.7. See also GOOG-CABR-04324934 – 944 at 914.

²⁶⁹ GOOG-CABR-04324934 – 944 at 941.

²⁷⁰ Schedule 8.7.

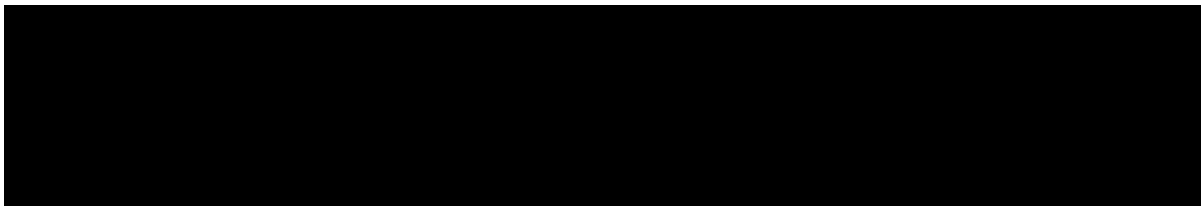
²⁷¹ Schedule 8.7.

Figure 49
Incognito U.S. Search Ads Revenue Attributable to Conversion Tracking from All Traffic:
June 1, 2016 – December 31, 2021²⁷²



122. I then performed similar analyses to determine Google's U.S. Search Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic. Once again, these analyses differed from the above in that they reflected each browser's respective traffic share, each browser's indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
123. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. Search Ads revenue from Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021:

Figure 50
U.S. Search Ads Revenue from Other Private Browsing Modes Attributable to Conversion
Tracking from All Traffic: June 1, 2016 – December 31, 2021²⁷³



124. I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁷⁴ More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁷⁵ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²⁷⁶ The application of these factors yields approximately [REDACTED] of Google U.S. Search Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking from all traffic during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

²⁷² Schedule 8.3.

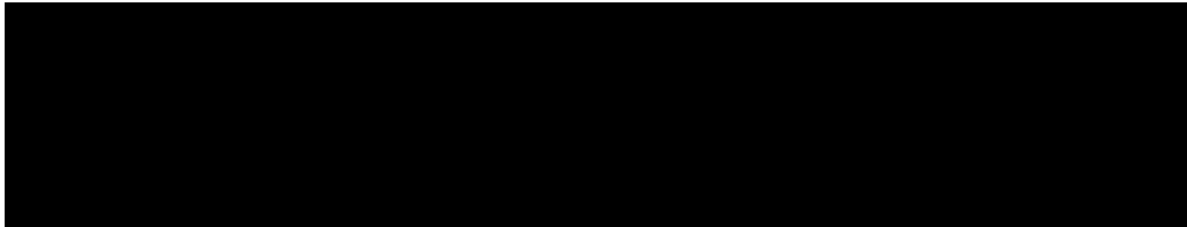
²⁷³ Schedules 9.3 and 10.3.

²⁷⁴ Schedules 8.1, 9.1, 10.1.

²⁷⁵ Schedules 21.1, 8.1, 9.1, 10.1 and Keegan Report, Table 7.

²⁷⁶ Schedules 8.1, 9.1, 10.1.

Figure 51
U.S. Search Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from All Traffic
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁷⁷



7.4.2. U.S. Search Ads Revenue from Incognito and Other Private Browsing Modes Attributable to Conversion Tracking from Traffic with Third-Party Cookies

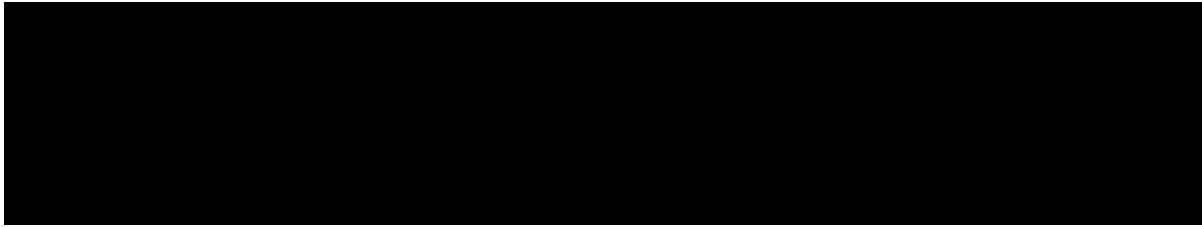
125. As indicated in the introductory paragraphs of Section 7.4, the second scenario that I investigated in relation to Google's Search Ads product area includes unjust enrichment from the alleged wrongful conduct that is specifically attributable to conversion tracking from traffic with third-party cookies. The analyses described below therefore measure the subset of Google autobidding revenue attributable to conversion tracking from traffic with third-party cookies through Incognito and Other Private Browsing Modes. This analysis first requires the quantification of Incognito U.S. Search Ads revenue attributable to traffic with third-party cookies. I therefore adjusted the previously quantified Incognito U.S. Search Ads revenue from Chrome to reflect the expected ramp-up of the [REDACTED] implementation [REDACTED] [REDACTED].²⁷⁸
126. Consistent with the methodology set forth in the Ads Impact document, I then adjusted the Incognito U.S. Search Ads revenue attributable to traffic with third-party cookies to reflect both the share of Search Ads revenue attributable to conversion tracking from all traffic (*i.e.*, [REDACTED] for the period June 1, 2016 through December 31, 2019 and 61.40% for the period January 1, 2020 through December 31, 2021) and the share of Search Ads traffic with cookies that is covered only by third-party cookies (*i.e.*, [REDACTED]).²⁷⁹
127. Applying these factors to the previously discussed Incognito U.S. Search Ads revenue attributable to traffic with third-party cookies yields approximately [REDACTED] of total Incognito U.S. Search Ads revenue attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

²⁷⁷ Schedules 8.1, 9.1, 10.1.

²⁷⁸ Schedules 8.6 and 8.4. See also GOOG-CABR-04324934 – 944 at 934.

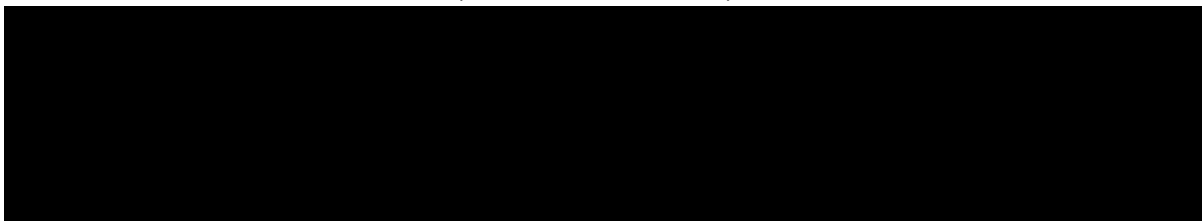
²⁷⁹ Schedules 8.7 and 8.2. See also GOOG-CABR-04324934 – 944 at 937.

Figure 52
Incognito U.S. Search Ads Revenue Attributable to
Conversion Tracking from Traffic with Third-Party Cookies:
June 1, 2016 – December 31, 2021²⁸⁰



128. I then performed similar analyses to determine Google's U.S. Search Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies. Again, these analyses differed from the above in that they reflected each browser's respective traffic share, each browser's indicated rate of private browsing mode usage (*i.e.*, 2.98% for Safari and 2.03% for Edge/Internet Explorer), and the best available information regarding the date on which each browser blocked third-party cookies by default.
129. As detailed in the attached schedules, my analyses indicate that Google generated approximately [REDACTED] of U.S. Search Ads revenue from Other Private Browsing Modes attributable to conversion tracking from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021:

Figure 53
U.S. Search Ads Revenue from Other Private Browsing Modes Attributable to
Conversion Tracking from Traffic With Third-Party Cookies:
June 1, 2016 – December 31, 2021²⁸¹



130. Once again, I then made two additional adjustments to the private browsing revenue calculations described above. As discussed in Section 7.2.1, I first applied browser-specific factors to isolate revenue attributable to Google account holders.²⁸² More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.²⁸³ I then applied an additional [REDACTED] factor to isolate revenue attributable to Google account holders who were signed out of their account on the browser while in a private browsing mode.²⁸⁴ The application of these factors yields approximately [REDACTED] of Google U.S. Search Ads revenue from Incognito and Other Private Browsing Modes attributable to conversion tracking

²⁸⁰ Schedule 8.2.

²⁸¹ Schedules 9.2, 10.2.

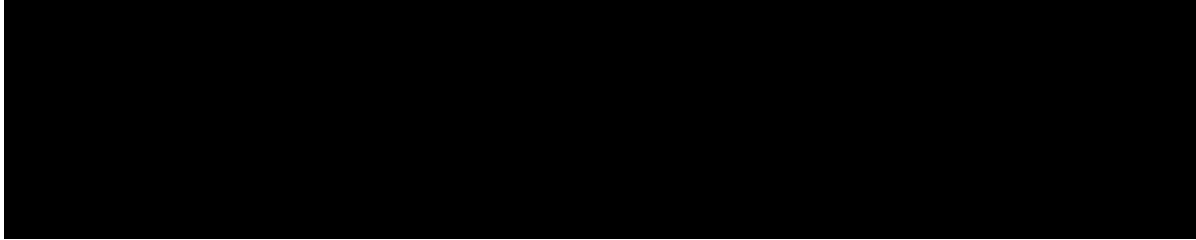
²⁸² Schedules 8.1, 9.1, 10.1.

²⁸³ Schedules 21.1, 8.1, 9.1, 10.1 and Keegan Report, Table 7.

²⁸⁴ Schedules 8.1, 9.1, 10.1.

from traffic with third-party cookies during the period June 1, 2016 through December 31, 2021, adjusted to reflect the limitations of the Class definitions:

Figure 54
U.S. Search Ads Revenue from Incognito and Other Private Browsing Modes
Attributable to Conversion Tracking from Traffic With Third-Party Cookies
and Adjusted to Reflect Limitations of the Class Definitions:
June 1, 2016 – December 31, 2021²⁸⁵



7.5. Conclusion Regarding Unjust Enrichment

131. As previously discussed, it is my opinion that the internal analyses that Google conducted and relied upon for purposes of assessing the financial impact to Google of blocking third-party cookies by default in Chrome Incognito mode provide the most appropriate and reliable basis for quantifying the unjust enrichment sought by Plaintiffs in this matter. Google's contemporaneous analyses in this regard are consistent with the types of analyses that I would expect to perform to determine Google's unjust enrichment even in the absence of such evidence.
132. Google's contemporaneous analyses of the financial impact of blocking third-party cookies by default in Chrome Incognito mode can be adjusted to reliably quantify Google's unjust enrichment under a range of potential liability scenarios. I have therefore quantified Google's unjust enrichment attributable to the alleged wrongful conduct for the period June 1, 2016 through December 31, 2021 (the latest date for which necessary Google financial data is currently available) based on Google's analyses set forth in the Ads Impact document and other relevant inputs.
133. My analyses of Google's unjust enrichment are segmented by Google product area (*e.g.*, Display Ads, YouTube Ads, and Search Ads), private browsing mode (*e.g.*, Incognito Mode and Other Private Browsing Modes), revenue source (*e.g.*, personalization or conversion tracking), and the scope of conversion tracking (*e.g.*, conversion tracking from traffic with third-party cookies or conversion tracking from all traffic, including that which leverages first-party cookies and sitewide tagging). This segmentation is intended to assist the trier of fact in determining Google's unjust enrichment under the assumption that the alleged wrongful conduct enabled Google to be unjustly enriched by an amount equal to:
 - Google's U.S. revenues and attendant profits generated from Google's collection and use of the private browsing data at issue;
 - Google's U.S. revenues and attendant profits generated by Google from its collection and use of the private browsing data at issue that is attributable to personalization from traffic with

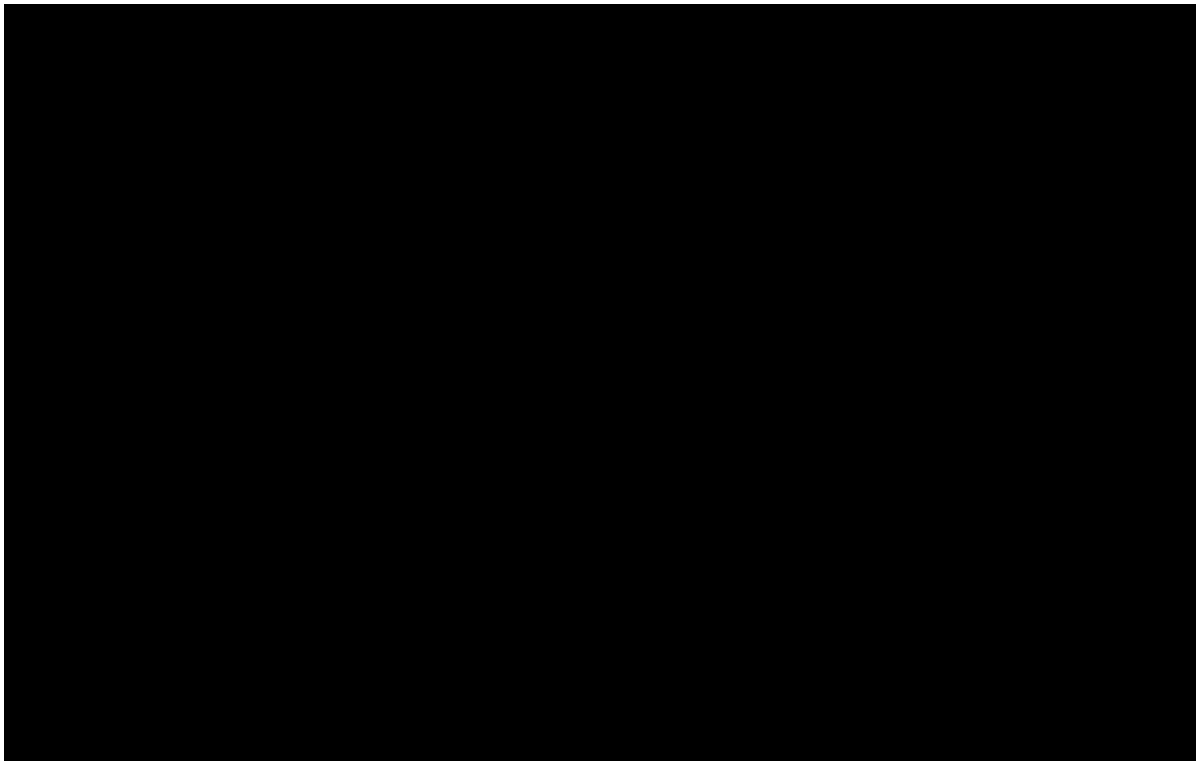
²⁸⁵ Schedules 8.1, 9.1, 10.1.

third-party cookies and conversion tracking from all traffic, including conversion tracking via sitewide tagging;

- Google's U.S. revenues and attendant profits generated by Google from its collection and use of the private browsing information at issue attributable to personalization from traffic with third-party cookies and conversion tracking from traffic with third-party cookies; or
- A combination thereof.

134. The components of any such unjust enrichment calculation are detailed throughout this report and supporting schedules and summarized in the figure below.

Figure 55
Summary of Google's Unjust Enrichment by Product Area and Liability Scenario:
June 1, 2016 – December 31, 2021²⁸⁶

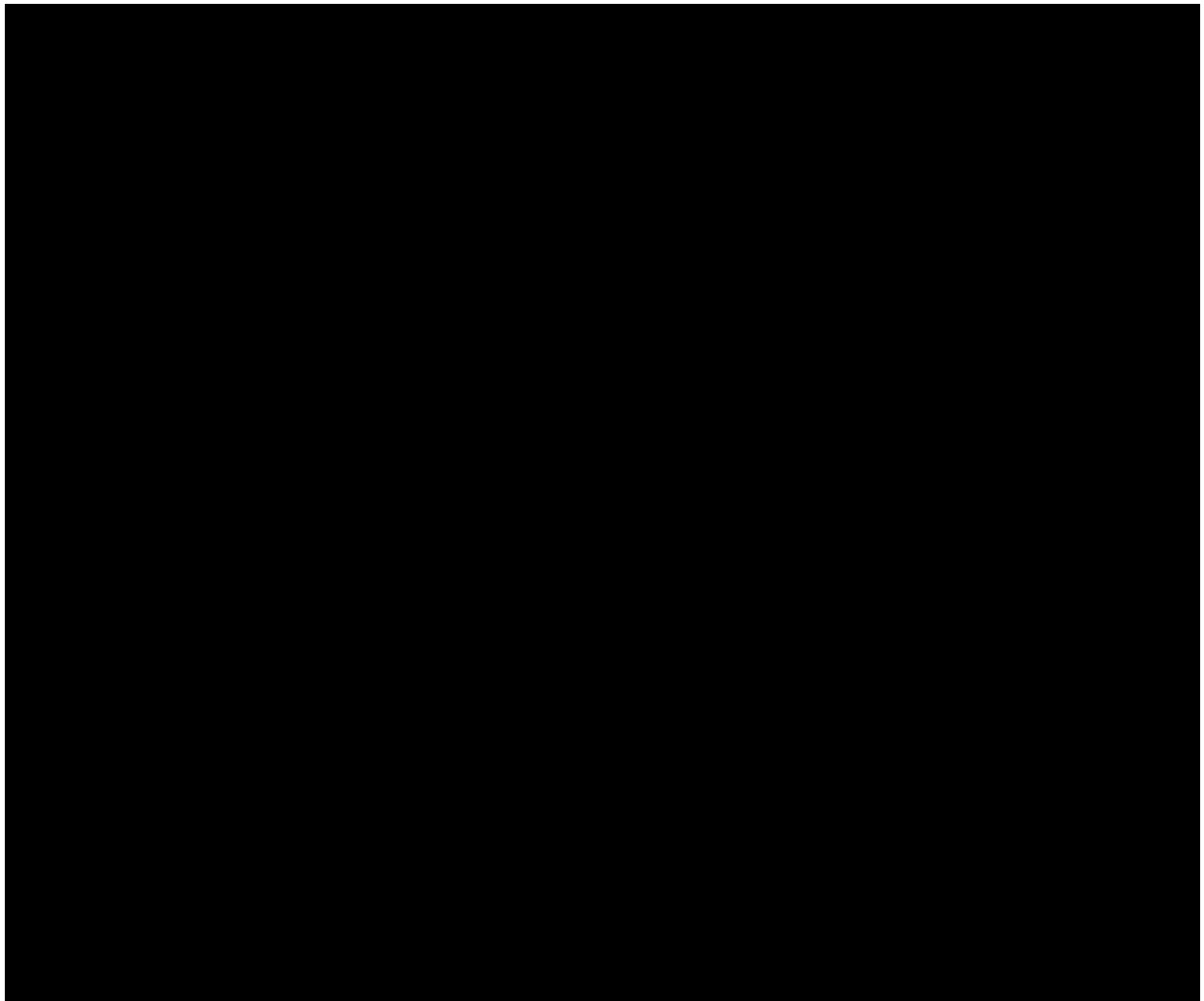


135. For example purposes, I have been asked to summarize a potential quantification of Google's unjust enrichment under the assumption that, due to the alleged wrongful conduct, Google was unjustly enriched by an amount equal to:
- Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes within Google's Display Ads business;

²⁸⁶ Schedules 1.1, 1.2, 1.3.

- Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes attributable to personalization and all conversion tracking (*i.e.*, including sitewide tagging) within Google’s YouTube Ads business; and
 - Google U.S. revenues and attendant profits generated from Incognito and Other Private Browsing Modes attributable to all conversion tracking (*i.e.*, including sitewide tagging) within Google’s Search Ads business.
136. As summarized in the figure below and detailed in the corresponding schedules, Google’s unjust enrichment under this liability scenario totals approximately [REDACTED] during the period June 1, 2016 through December 31, 2021:

Figure 56
Example Calculation of Google’s Unjust Enrichment
Under Representative Liability Scenario:
June 1, 2016 – December 31, 2021²⁸⁷



²⁸⁷ Schedules 1.1, 1.2, 1.3. As previously discussed, and consistent with the analyses set forth in the Ads Impact document and Google’s internal communications regarding the same, I have measured Google’s unjust

8. ACTUAL DAMAGES

137. As previously discussed, my assignment in this matter also included an assessment of the feasibility of identifying and quantifying measures of actual damages attributable to Google's alleged wrongful conduct for the two Classes and for the Class Period. In my opinion, and as described below, such actual damages can be determined as a function of the payments necessary to incentivize an individual to knowingly relinquish the choice to keep certain browsing private and allow an organization to track all online activity. I have therefore identified and considered various indicators of both the payments that Google and other organizations have paid to individuals to track their online activity, and the fees that individuals have paid to various organizations in their attempts to increase online privacy and/or avoid tracking.
138. As discussed below, it is my opinion that the most probative indicator is derived from one aspect of the monthly compensation structure for participants in the Ipsos Screenwise Panel, a consumer research study conducted for Google by Ipsos. More specifically, it is my opinion that the baseline payment to Screenwise Panel participants of \$3 per month for their use of a Screenwise browser extension or a Screenwise meter app on a single device represents a conservative indicator of the monthly payment necessary for an individual to knowingly relinquish the choice to keep certain browsing private and allow Google to track all of their online activity, regardless of browsing mode.
139. I have also undertaken an analysis of Google data relating to the number of unique monthly private browsing instances ("UMPBI"), where a single UMPBI represents one or more pageloads in Incognito mode or an Other Private Browsing Mode on a single device during a one-month period. As discussed below, my findings regarding UMPBI can be used as a basis for calculating total actual damages during the Class Period. Further, and as discussed in Sections 9 and 10 below, my findings regarding UMPBI could also be used as a basis for quantifying statutory damages and apportioning damages across the two Classes and among Class members in this matter.

8.1. Analysis of the Value of Private Browsing Data Acquired by Google

140. As previously discussed, I searched for and analyzed various indicators of both the payments that Google and other organizations have paid to individuals in order to transparently track their online activity, and the fees that individuals have paid to various organizations in their attempts to increase online privacy and/or avoid tracking. I therefore identified and considered evidence of the following:
 - Google's payments or consideration of payments for user data;
 - Users' willingness to pay to prevent data collection; and
 - Research organizations' willingness to pay for data collection.

enrichment attributable to the alleged wrongful conduct in terms of revenue. As of the filing of this report, I am not aware of information from Google sufficient to allow for the determination and deduction of incremental costs, if any. To the extent that Google or its experts identify documents indicating that a deduction of incremental costs may be appropriate and that those costs can be accurately calculated, I reserve the right to review that information and amend my analyses, if necessary.

141. My analysis of these indicators is discussed below.

8.1.1. Google's Payments or Consideration of Payments for User Data

142. I have identified and considered the following indicators of Google's payments to users – or its consideration of payments to users – for user data.

Ipsos Screenwise Panel

143. Since 2012, Google has utilized consumer research studies conducted by Ipsos, a global market research company,²⁸⁸ to collect information on how users browse the internet.²⁸⁹ Through these studies, which are marketed as the Ipsos Screenwise Panel ("Screenwise Panel"), members of selected U.S. households are paid to voluntarily link their devices, operate a special router, and recruit other members of the household to participate in a comprehensive online data collection process.²⁹⁰

144. According to the Ipsos Screenwise Panel privacy and cookie policies, Google uses the collected information to "better understand how consumers use technology and digital media."²⁹¹ According to the related "Google Panel Privacy Policy," which describes "*how Google LLC will collect, store, use, and share information obtained from the hardware, software, and other Panel metering technology (collectively 'Meters') used in connection with the Panel,*" the information collected via the "Meters" includes a vast array of personal data that can be combined with "*other data collected by Google when you're using Google products and services as a Google user*":²⁹²

²⁸⁸ "Key Figures" per Ipsos at <https://www.ipsos.com/en/key-figures> (accessed March 17, 2022).

²⁸⁹ "About the Ipsos Screenwise Panel" per Ipsos at <https://screenwisepanel.com/home> (accessed March 15, 2022). See also "Google Screenwise pays opt-in users for expanded web tracking" at <https://www.theverge.com/2012/2/8/2785751/google-screenwise-panel-web-monitoring-knowledge-networks> (accessed March 14, 2022) and "Google paying users to track 100% of their Web usage via little black box" per Ars Technica at <https://arstechnica.com/gadgets/2012/02/google-paying-users-to-track-100-of-their-web-usage-via-little-black-box/> (accessed March 14, 2022).

²⁹⁰ "About the Ipsos Screenwise Panel" per Ipsos at <https://screenwisepanel.com/home> (accessed March 15, 2022). See also GOOG-CABR-X-00000421 – 465 at 423 and GOOG-CABR-X-00000468 – 469.

²⁹¹ "Ipsos Screenwise Panel Cookie Policy" per Ipsos at <https://screenwisepanel.com/cookie-policy> (accessed March 17, 2022) and "Ipsos Screenwise Panel Privacy Policy" per Ipsos at <https://screenwisepanel.com/ipsos-Sow-privacy-policy> (accessed March 14, 2022).

²⁹² "Google Panel Privacy Policy" per Ipsos at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022).

Figure 57
Google Panel Privacy Policy Summary²⁹³

Summary

Google collects data through its meters, including, for example:

- The content and advertising shown on your devices, and your interactions with that content and advertising, including videos you watched, your emails and SMS, and web pages you've visited.
- Information you input (e.g., text you type) into your devices.
- Cookies and device information.

Your participation in the Panel is voluntary. You may end your participation in the Panel at any time by following the instructions provided to you during the sign-up process. You can also temporarily pause or turn off metering at any time.

Google may combine the data collected with other data collected by Google when you're using Google products and services as a Google user. For example, we may combine your panel data with information in your Google Account(s) (e.g., which ads you viewed), or with anonymous or pseudonymous identifiers (such as cookies or unique device identifiers) used by Google products and services.

Google will use the data above in connection with existing Google products and services, to provide, maintain, and improve them, and to develop new ones. For example, we may use this data to conduct analytics and measurement to understand how our services are used, as well as conduct ads-related market research. As another example, we may use this data to improve Google products such as Search, Android, YouTube and Google Assistant.

145. The Google Panel Privacy Policy explains that “[w]hen a Meter is placed on a device, it potentially will collect and record all interactions with that device. For example, when a Meter is placed on your mobile phone, it potentially will record everything you see on your screen and everything you tap, type, swipe, or otherwise input.”²⁹⁴ The policy goes on to further define the scope of the information collected, which includes, among other items, “every web page you’ve visited and all of your interactions with those web pages,” “your use of applications and widgets (collectively ‘apps’), software, and operating systems,” “the content you see on your screen or device at any given time,” and “[i]nformation you provide or otherwise input when visiting websites, using apps or using a TV user interface [including] search terms and personal information you provide to a website, TV user interface, or app, including your name, email address, home/work address, telephone number, Social Security number, or credit card number.”²⁹⁵
146. Based on my review of the Google Panel Privacy Policy and its detailed itemization of the information collected, it is readily apparent that participants in the Screenwise Panel voluntarily and knowingly allow Google to track all online activity and, in doing so, relinquish any sense of online data privacy – actual or perceived – related to that online activity for as long as they

²⁹³ “Google Panel Privacy Policy” per Ipsos at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022). Emphasis added.

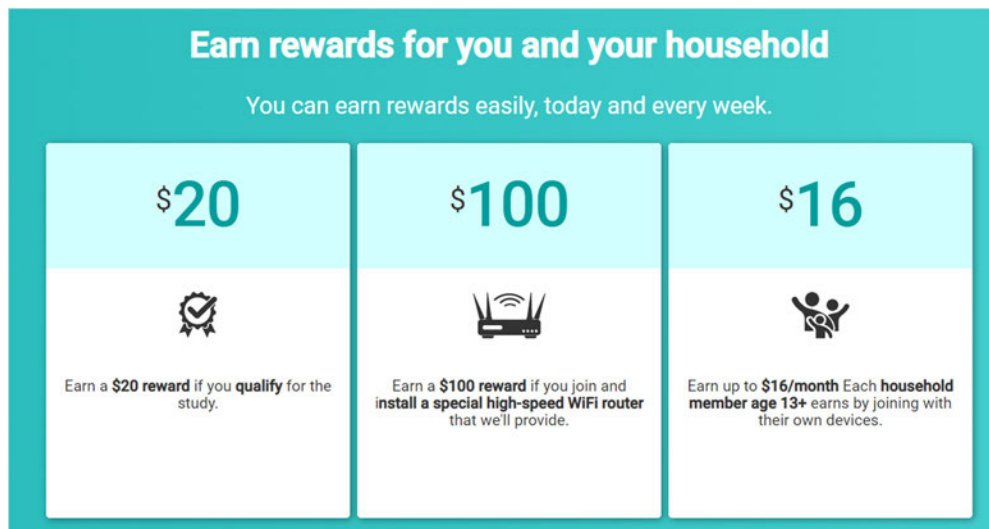
²⁹⁴ “Google Panel Privacy Policy” per Ipsos at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022).

²⁹⁵ “Google Panel Privacy Policy” per Ipsos at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022).

participate in the study. Further, while the policy states that past participants can formally request the deletion of personal information collected during the study, and that “*Google will make reasonable efforts to comply with such requests,*” the policy also states that Google “*may aggregate, anonymize, or otherwise de-identify any personal information instead of deleting it*” and “[w]hen your participation in the Panel ends, Google may continue to store, use, and share the information previously obtained.”²⁹⁶

147. Participants in the Screenwise Panel receive various payments and rewards for their activity. According to the limited amount of compensation information available on the Screenwise Panel website, the financial consideration to panel participants can include “rewards” valued at \$120 for qualifying for the study and installing a special router, as well as monthly payments of up to \$16 per household member:

Figure 58
Ipsos Screenwise Panel – Summary of Rewards and Payments per Screenwisepanel.com²⁹⁷



148. Additional information regarding this compensation structure is found in the text of a “Screenwise Panel Recruitment Survey” produced in this matter:

²⁹⁶ “Google Panel Privacy Policy” per Ipsos at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022).

²⁹⁷ “About the Ipsos Screenwise Panel” per Ipsos at <https://screenwisepanel.com/home> (accessed March 15, 2022).

Figure 59**Ipsos Screenwise Panel – Summary of Rewards and Payments per Recruitment Survey²⁹⁸**

If you complete this survey and qualify for the Ipsos Screenwise Panel, you will receive a \$20 reward. You will also receive up to \$100 after installing the router and up to \$16 in monthly rewards for your participation.

How you can earn monthly rewards:

- Router: \$5 for having all Wi-Fi devices connected to the Screenwise Router
- Browser: \$3 for using browsers with the Screenwise Meter browser extension
- Mobile phone: \$3 for using phones with the Screenwise Meter app installed
- Tablet: \$3 for using tablets with the Screenwise Meter app installed
- \$2 bonus reward for using 3 of the 4 of the devices above

Participating with all of your household devices gives us a better understanding of how people use the internet and mobile apps—and it's the best way to earn the most rewards available.

149. Troy Walker, Engineering Director for the Google Screenwise Program and Google's corporate designee regarding the same,²⁹⁹ provided additional information regarding this compensation structure in his deposition testimony:

Q. Okay. And how much is a Screenwise panelist paid for installation of the browser extension on the Chrome browser per device and per month?

A. So for -- for installation of a browser extension, it's \$5 for installation, for a max of \$15 per person. So it's complex to determine how much for a browser, for a particular browser.

Q. So that's for the installation. What about for the monthly continued use of the browser with the Screenwise browser extension?

A. So the total per month is up to \$16. However, that -- that includes lots of different extensions, lots of different devices. So maximum, it would be \$3 for a Chrome extension, but it could be less than that or zero.

Q. In what circumstances would it be less than \$3?

A. No circumstances where they've already installed other meters.

Q. If it's only the Screenwise meter on the Chrome browser, is it \$3 per month?

A. Yes.

Q. Okay. And for a second browser, would that be another \$3 per month?

A. If the user only has the hardware meter and does not have a CTV meter or other kind of meters and has only done one previous meter, yes.

²⁹⁸ GOOG-CABR-X-00000421 – 426 at 423.

²⁹⁹ Deposition of Troy Walker, March 24, 2022, pp. 7 – 8.

Q. And by “the meter,” I’m speaking – we’re speaking specifically here about the browser extension, right? I just want to make sure we’re on the same page. It’s \$3 for the second browser extension separate from the first, correct?

A. So I’m using “meter” because there’s lots of different ways that we collect data from panelists. I’m using our general, broad term. The Chrome extension is one of many different kinds of meters for different kinds of devices in situations.

Q. Can a panelist have the Chrome browser extension on more than one device?

A. Yes.

Q. And for the first device, they’re paid \$3 per month, correct?

A. Yes.

Q. And if they have a second device with the Chrome browser extension, are they also paid \$3 per month for that second device?

A. As long as they’ve set it up properly and they’re logging that with their panelist identifier, yes.³⁰⁰

150. Based on the above, it is evident that while monthly payments and other rewards to a single Screenwise Panel participant can reach or exceed \$16 per month, the minimum recurring payment to Screenwise Panel participants for their use of a Screenwise browser extension or a Screenwise Meter app on a single device is \$3 per month.

April 2021 Conversion Panel Proposal

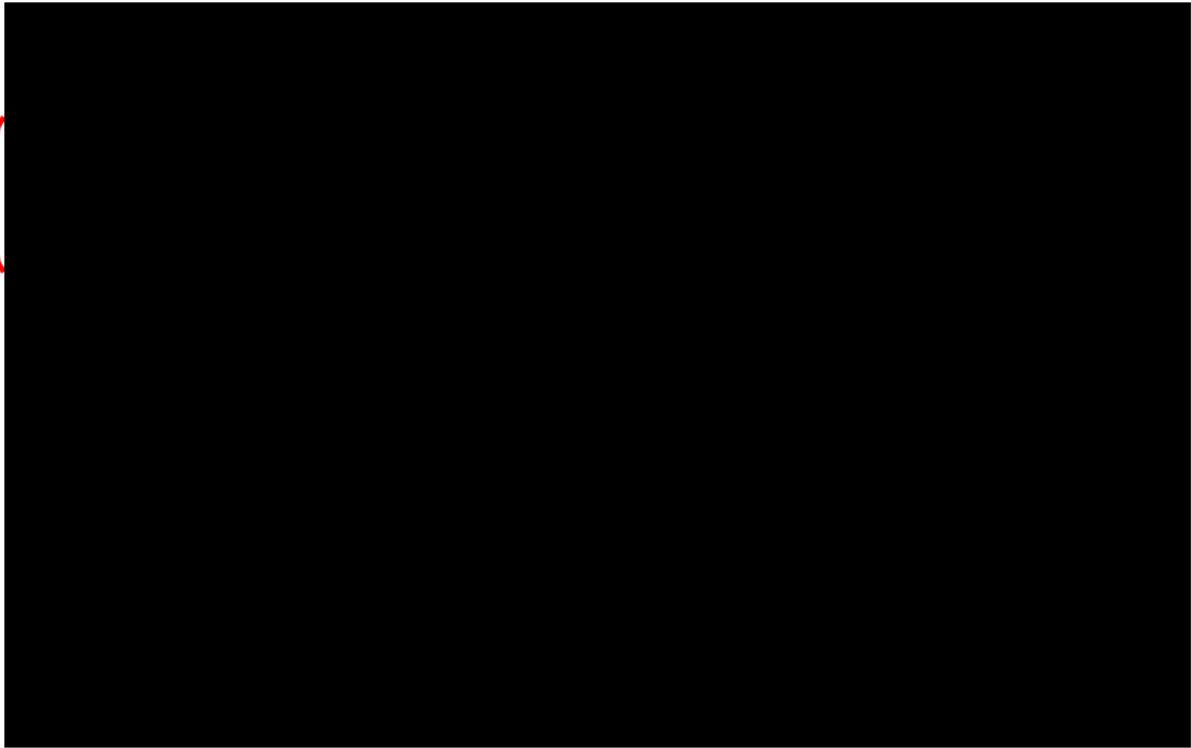
151. An internal presentation entitled “Conversion Panel Proposal” and dated April 22, 2021 summarizes a Google team’s proposal for [REDACTED]

[REDACTED]³⁰¹ As indicated below, the presentation asks for the internal funding necessary to validate assumptions before proceeding with a [REDACTED]

³⁰⁰ Deposition of Troy Walker, March 24, 2022, pp. 13 – 15.

³⁰¹ GOOG-CABR-04705413 – 466 at 413, 416.

Figure 60
Conversion Panel Proposal – “Why we are here”³⁰²



152. The presentation describes the “upcoming privacy changes” as including, among other items:

- Restrictions in iOS14 which will “limit advertiser’s ability to track conversions in iOS” and restrict “use of 3P cookies on all browsers”;
- Deprecation of [REDACTED] and [REDACTED]
- Deprecation of “Chrome 3P cookies” resulting in the “inability to track web-based conversions using traditional tagging solutions.”³⁰³

153. The presentation also describes, among other items:

- An estimated annual revenue impact between approximately [REDACTED] attributable to correcting assumptions for conversion tracking in Search;³⁰⁴
- Requirements of the conversion panel with respect to activity bias, representativeness of the full online population, and mobile and desktop coverage;³⁰⁵

³⁰² GOOG-CABR-04705413 – 466 at 416. Emphasis added.

³⁰³ GOOG-CABR-04705413 – 466 at 419.

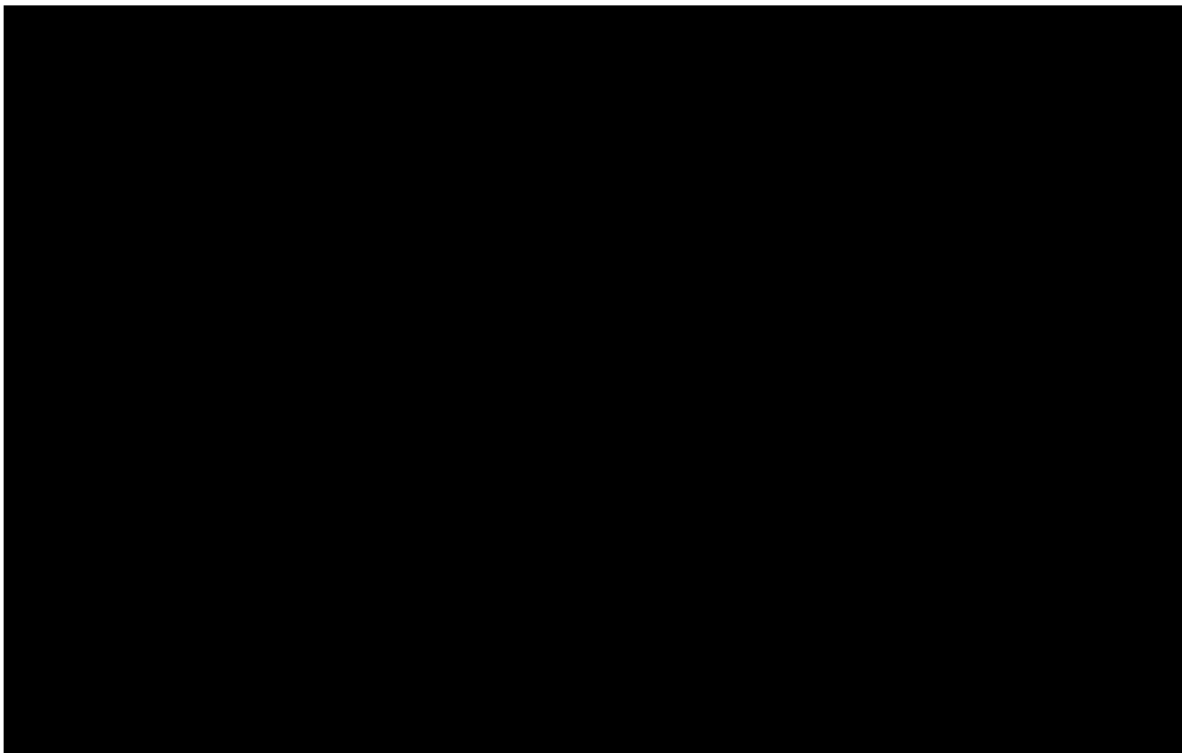
³⁰⁴ GOOG-CABR-04705413 – 466 at 421.

³⁰⁵ GOOG-CABR-04705413 – 466 at 427 – 430.

- The significance of probabilistic panels, which are described as “the gold standard for consumer measurement in the industry and bring credibility to our methodology”;³⁰⁶ and
- “How a conversion panel would work” with respect to recruiting, on-boarding, and installing panelists.³⁰⁷

154. In a section of the presentation labeled “Pilot Panel – How we will build and what it will take,” the presentation details Google’s estimated annual costs.³⁰⁸ As indicated below, these cost estimates [REDACTED] which were based, in part, on a recommended payment from Google of \$14 per panelist per month:

Figure 61
Conversion Panel Proposal – “ASK: 2022 cost breakdown (directional estimates)”³⁰⁹



8.1.2. Consumers’ Willingness to Pay to Prevent Data Collection or Block Advertisements

155. I have also identified and considered the following indicator of consumers’ willingness to pay in their attempts to increase online privacy and/or avoid tracking.

³⁰⁶ GOOG-CABR-04705413 – 466 at 423.

³⁰⁷ GOOG-CABR-04705413 – 466 at 447 – 454.

³⁰⁸ GOOG-CABR-04705413 – 466 at 438, 442.

³⁰⁹ GOOG-CABR-04705413 – 466 at 442. Emphasis added. I note that [REDACTED] of annual rewards to panelists. The cost of these rewards was added to the [REDACTED] Ipsos quote for printing/mailing.”

AT&T's GigaPower Campaign & Internet Preferences Program

156. In 2013, AT&T launched its “GigaPower” all-fiber network in parts of Austin, Texas.³¹⁰ The cost was \$70 per month if customers agreed to participate in AT&T’s “Internet Preferences” program, which would use customers’ personal data to serve targeted advertisements, but an extra \$29 per month for customers who did not opt into the program.³¹¹ AT&T explained that through Internet Preferences, user information such as search terms and website visits could be used for targeted advertising:

*[The \$70 price] is available with your agreement to participate in AT&T Internet Preferences. AT&T may use your Web browsing information, like the search terms you enter and the Web pages you visit, to provide you relevant offers and ads tailored to your interests.*³¹²

157. AT&T also explained that the price differential was due to AT&T’s ability to generate advertising revenue:

*We can offer a lower price to customers participating in AT&T Internet Preferences because advertisers will pay us for the opportunity to deliver relevant advertising and offers tailored to our customer’s interests.*³¹³

158. AT&T expanded GigaPower and Internet Preferences to Kansas City, MO and parts of Kansas in February 2015.³¹⁴ However, in September 2016, AT&T announced that it would “sunset” the Internet Preferences program beginning in October 2016 and charge all customers the best available rate for their area and speed tier.³¹⁵ AT&T characterized the end of the program as an

³¹⁰ “AT&T offers gigabit Internet discount in exchange for your Web history” per Ars Technica at <https://arstechnica.com/information-technology/2013/12/att-offers-gigabit-internet-discount-in-exchange-for-your-web-history/> (accessed March 1, 2022).

³¹¹ “AT&T offers gigabit Internet discount in exchange for your Web history” per Ars Technica at <https://arstechnica.com/information-technology/2013/12/att-offers-gigabit-internet-discount-in-exchange-for-your-web-history/> (accessed March 1, 2022).

³¹² “AT&T offers gigabit Internet discount in exchange for your Web history” per Ars Technica at <https://arstechnica.com/information-technology/2013/12/att-offers-gigabit-internet-discount-in-exchange-for-your-web-history/> (accessed March 1, 2022).

³¹³ “AT&T Offers Data Privacy – for a Price” per Wall Street Journal at <https://www.wsj.com/articles/BL-DGB-40475> (accessed March 12, 2022).

³¹⁴ “AT&T Offers Data Privacy – for a Price” per Wall Street Journal at <https://www.wsj.com/articles/BL-DGB-40475> (accessed March 12, 2022) and “AT&T charges \$29 more for gigabit fiber that doesn’t watch your Web browsing” per Ars Technica at <https://arstechnica.com/information-technology/2015/02/att-charges-29-more-for-gigabit-fiber-that-doesnt-watch-your-web-browsing/> (accessed February 28, 2022).

³¹⁵ “AT&T to end targeted ads program, give all users lowest available price” per Ars Technica at <https://arstechnica.com/information-technology/2016/09/att-to-end-targeted-ads-program-give-all-users-lowest-available-price/> (accessed March 1, 2022).

attempt to simplify its offering for customers and confirmed that data collection and targeted ads would be shut off as a result of the change.³¹⁶

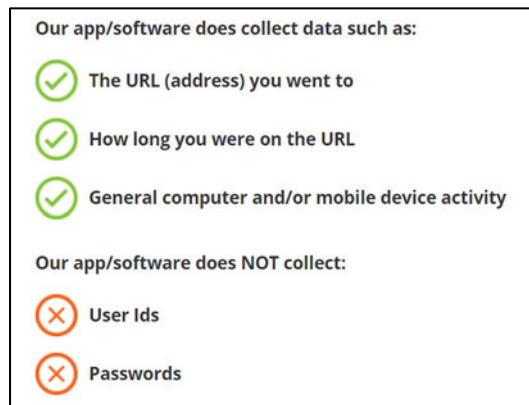
8.1.3. Research Organizations' Willingness to Pay for Data Collection

159. I have also identified and considered the following indicators of research organizations' willingness to pay users to allow for additional data collection.

Nielsen Computer and Mobile Panel

160. Nielsen, the world's leading provider of media and marketing information, tracks and collects information related to device usage to develop an understanding of consumer behavior, including what consumers view and listen to, as well as how they browse the internet.³¹⁷ Participants in the Nielsen Computer and Mobile Panel register demographic and device information, download a Nielsen app or computer software on devices, and ultimately earn money for their participation.³¹⁸ The data collected from participants in the panel includes the following:

Figure 62
What does the Nielsen Computer & Mobile App / Software Collect?³¹⁹



³¹⁶ "AT&T to end targeted ads program, give all users lowest available price" per Ars Technica at <https://arstechnica.com/information-technology/2016/09/att-to-end-targeted-ads-program-give-all-users-lowest-available-price/> (accessed March 1, 2022). AT&T's GigaPower campaign was also referenced by the Federal Communications Commission ("FCC") in a December 2016 Final Rule decision issued to Congress regarding telecommunications customer privacy. The FCC highlighted AT&T's GigaPower program, noting that until recently, customers had to opt into AT&T Internet Preferences in order to receive GigaPower services at a lower cost. The FCC also noted that "consumers have difficulty placing a monetary value on privacy." See "Protecting the Privacy of Customers of Broadband and Other Telecommunications Services," Federal Communications Commission, December 2, 2016, p. 87317.

³¹⁷ "Nielsen Computer & Mobile Panel" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/sdp/landing> (accessed March 13, 2022); "What is the Nielsen Computer & Mobile panel?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 26, 2022); and "Why Should I Join?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 26, 2022).

³¹⁸ "Nielsen Computer & Mobile Panel" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/sdp/landing> (accessed March 13, 2022) and "What Rewards Can I Earn?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 26, 2022).

³¹⁹ "What does the Nielsen Computer & Mobile App/software collect?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 26, 2022).

161. By downloading the Nielsen app, users can earn up to \$50 per year, depending on the number of mobile devices for which the user installs and uses the app.³²⁰ Nielsen describes the Computer and Mobile Panel's purpose as "*help[ing] understand how consumers use the Internet by studying the websites people like you visit*" and represents that it uses the collected information to perform research and prepare analyses regarding internet usage patterns and demographics.³²¹

SavvyConnect

162. SavvyConnect launched an application that tracks user data in 2009 and has since been performing "behavioral market research" on users' browsing activities.³²² Users of SavvyConnect earn rewards by downloading an app on their smartphone, tablet, and/or computer and participating in their typical web browsing activities.³²³ SavvyConnect collects data as users browse the internet and utilizes the data it collects to identify trends in search, shopping, and entertainment.³²⁴ By installing and activating SavvyConnect on a device and allowing their typical web browsing activities to be tracked, users earn \$5 per device per month for up to three devices, (up to \$15 per month for installing and activating SavvyConnect on their computer, mobile phone, and tablet).³²⁵

UpVoice

163. Operated by the market research firm BrandTotal, UpVoice is a research panel that collects user data based on browsing activities to build "*special insights for brands on their advertising activities and the ad campaigns of their competitors*."³²⁶ Participants sign up for UpVoice and participate in the panel as follows:

³²⁰ "What rewards can I earn?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faen.html> (accessed March 26, 2022).

³²¹ "What does Nielsen use my information for?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faen.html> (accessed March 26, 2022) and "What is the Nielsen Computer & Mobile Panel?" per Nielsen at <https://computermobilepanel.nielsen.com/ui/US/en/faen.html> (accessed March 26, 2022).

³²² "How it Works" per Survey Savvy at https://www.surveysavvy.com/how_it_works (accessed March 15, 2022).

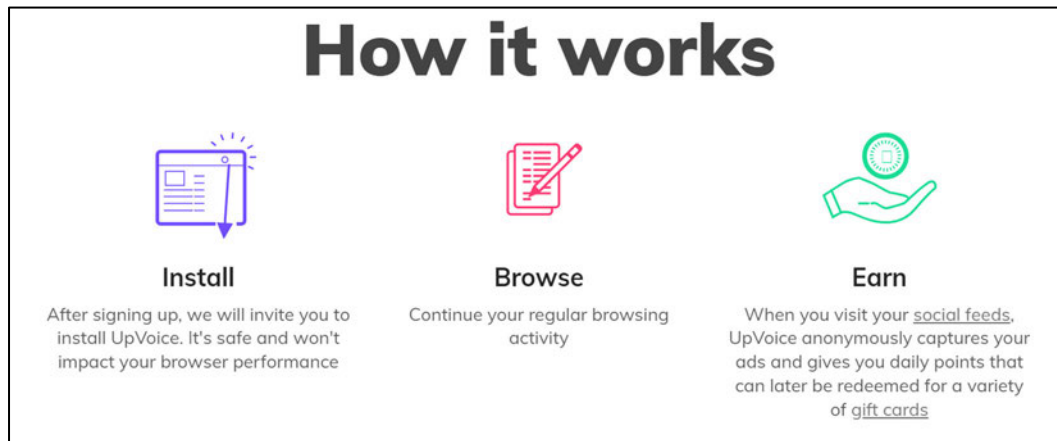
³²³ "What is SavvyConnect?" per Survey Savvy at <https://www.surveysavvy.com/savvyconnect> (accessed March 14, 2022).

³²⁴ "What is SavvyConnect?" per Survey Savvy at <https://www.surveysavvy.com/savvyconnect> (accessed March 14, 2022).

³²⁵ "SavvyConnect Monthly Participation Requirements" per Survey Savvy at <https://www.surveysavvy.com/savvyconnect/requirements> (accessed March 13, 2022) and "What is SavvyConnect?" per Survey Savvy at <https://www.surveysavvy.com/savvyconnect> (accessed March 14, 2022).

³²⁶ "What is UpVoice?" per UpVoice at <https://www.joinupvoice.com/faq> (accessed March 27, 2022) and "Who we Are?" per <https://www.joinupvoice.com/faq> (accessed March 27, 2022).

Figure 63
UpVoice – How it works³²⁷



164. The data collected by UpVoice includes name, email address, and basic demographic information as well as the ads that users are exposed to while using certain websites including Facebook, Twitter, YouTube, LinkedIn, and Amazon.³²⁸ UpVoice participants can be paid financial rewards based on “points” earned for activities including signing up, visiting supported websites including Facebook, YouTube, Twitter, LinkedIn, and Amazon, and reaching certain usage milestones.³²⁹ The amount of money that UpVoice participants earn is based on their activity, but participants who make daily visits to UpVoice’s supported websites “can expect to earn at least \$93” in rewards during the first year of participation in the panel.³³⁰

8.1.4. Conclusion Regarding the Value of Private Browsing Data Acquired by Google

165. Based on the above, it is my opinion that the most probative indicator of the value of data that Google obtained from users’ private browsing activities without remuneration to those users is derived from the monthly compensation structure for participants in the Ipsos Screenwise Panel. More specifically, it is my opinion that the baseline payment to Screenwise Panel participants of \$3 per month for their use of a Screenwise browser extension or a Screenwise meter app on a single device represents a conservative indicator of the monthly payment necessary for an individual to knowingly relinquish the choice to keep certain browsing private and allow Google to track all of their online activity, regardless of browsing mode. To calculate total actual damages, this \$3 monthly rate can be multiplied by the number of unique monthly private browsing instances during the Class Period for the two Classes, as discussed in Section 8.2 below.

³²⁷ “How it works” per UpVoice at <https://www.joinupvoice.com/> (accessed March 14, 2022). See also “What is UpVoice?” per UpVoice at <https://www.joinupvoice.com/faq> (accessed March 27, 2022).

³²⁸ “What type of data do you collect about me?” per UpVoice at <https://www.joinupvoice.com/faq> (accessed March 27, 2022).

³²⁹ “What are the details of your reward plan?” per UpVoice at <https://www.joinupvoice.com/faq#rewards-plan> (accessed March 27, 2022).

³³⁰ “How much can I make?” per UpVoice at <https://www.joinupvoice.com/faq#rewards-plan> (accessed March 27, 2022).

8.2. Analysis of Unique Monthly Private Browsing Instances

166. I also undertook an independent analysis of the base to which the previously discussed \$3 monthly rate can be applied. As Google represents that it does not and cannot capture data on a per *user* basis,³³¹ I sought to determine the number of unique *devices* (*i.e.*, computers and mobile devices) with which users have browsed in Incognito and Other Private Browsing Modes in the U.S. during each month of the Class Period. My analysis in this regard was based on Google's written discovery responses regarding the "*number of unique Chrome instances that appear to be in the United States during a 28-day period ending on the first of the month from June 1, 2016 to January 1, 2022*" as well as other data recently produced and described by Google as relating to "*clients who have enabled anonymous metrics reporting ('UMA') and further limited to those UMA-enabled clients who are randomly sampled to report data to Google.*"³³² As discussed below and detailed in the attached schedules, I used this information to determine the number of unique monthly private browsing instances ("UMPBI") for the Classes during the period June 2016 through December 2021.

8.2.1. Class 1

167. Google recently produced data regarding the number of "Unique Clients" per device platform (including Windows, MacOS, Android, iOS, ChromeOS and Linux) that used Incognito mode in the U.S. each month during the period January 2021 through February 2022. In its production of this data, Google represented that these numbers were based on "raw" UMA upload numbers, without accounting for different UMA upload rates on the different device platforms.³³³ This means that the unique client counts represented in Google's recent production understate the actual number of unique clients that used Incognito mode each month during the period. To address this understatement, I applied the UMA upload rates for the individual device platforms as represented in Google's prior production of UMA data and an April 5, 2022 email from Google's counsel to Plaintiffs' counsel.³³⁴ As detailed in the attached schedules, this calculation yields the actual number of unique clients that used Incognito mode in the U.S. during each month of 2021.³³⁵

168. In addition to data regarding the number of unique clients that used Incognito each month, Google's recent production also included data regarding the number of unique clients that used a "Regular" (*i.e.*, non-Incognito) mode each month. As these numbers were also based on raw UMA upload numbers (*i.e.*, without accounting for different upload rates on the different device platforms), I applied the UMA upload rates discussed above to calculate the actual number of unique Chrome clients in the U.S. during each month of 2021.³³⁶ As indicated in the figure

³³¹ Deposition of Ramin Halavati, January 18, 2022, pp. 188 – 189, 206.

³³² See, for example, Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34 – 40), p. 5; GOOG-CABR-05886428, tab "Explanations".

³³³ See, for example, GOOG-CABR-05886428, tab "Explanations".

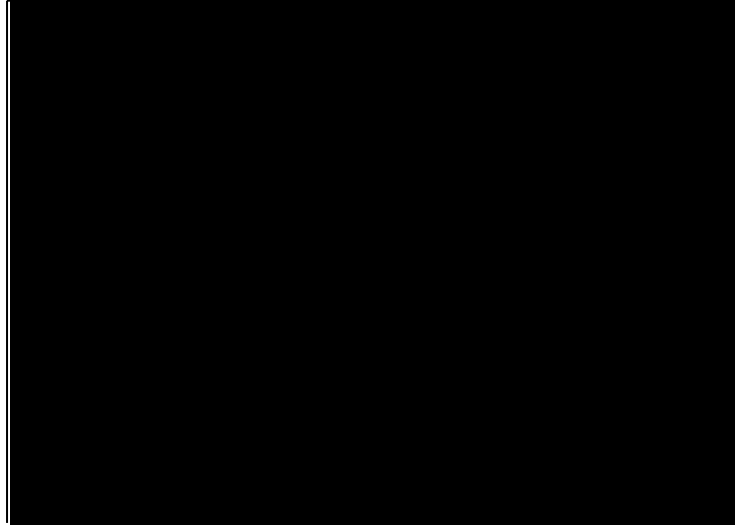
³³⁴ GOOG-CABR-04486714.xls, tab "Mainframe Page Loads Distributi"; Email from Tracy Gao re: "Brown v. Google – UMA data," April 5, 2022.

³³⁵ Schedule 19.1. I truncated this calculation in December 2021 for consistency with other calculations addressed in this report.

³³⁶ Schedules 19.2 – 19.7.

below, this data indicates that the unique Incognito clients represented approximately [REDACTED] of the unique Chrome clients during 2021.³³⁷

Figure 64
Comparison of Unique Chrome and Incognito Clients in the U.S.:
January 2021 – December 2021³³⁸



169. As Google’s production did not include information regarding the number of unique clients that used Incognito mode in the U.S. prior to 2021, I applied the [REDACTED] factor indicated above to Google’s prior production of data regarding “unique Chrome instances” in the U.S. for each month since June 2016. More specifically, in its response to Plaintiffs’ Interrogatory No. 36, Google represented that it “*maintains information in the ordinary course of business that can be used to show the number of unique Chrome instances that appear to be in the United States during a 28-day period ending on the first of the month from June 1, 2016 to January 1, 2022.*”³³⁹ As Google did not identify this data as subject to UMA or other upload rates, it was presumed to be representative of the actual unique monthly Chrome instances. I therefore applied the previously discussed [REDACTED] factor to the number of unique Chrome instances in the U.S. in order to estimate the number of unique clients that used Incognito mode in the U.S. each month during the period June 2016 through December 2020.³⁴⁰
170. As I understand that the Class definitions in this matter include limitations for users with Google accounts who were in a private browsing mode while not logged into their Google accounts on that browser, I made two additional adjustments to the number of unique clients calculated above. I first applied the previously discussed Chrome-specific factor of approximately 91.6% to isolate unique clients who are Google account holders.³⁴¹ I then applied an additional [REDACTED] factor to

³³⁷ I note that this is 11.7% factor may be conservative in light of other indicators of Incognito and private browsing mode usage. See, for example, GOOG-BRWN-00529122 – 124 at 122 (“*Incognito mode is used by 71% of Chrome users, and 56% use it at least once per week.*”); GOOG-BRWN-00154008 – 078 at 014 (“*56% of weekly Chrome users browse in Incognito at least once a week and 74% of those weekly Chrome users rate it as an important feature.*”). See also, for example, GOOG-BRWN-00422777 – 778 at 777; GOOG-BRWN-00047631; GOOG-BRWN-00203888 – 938 at 893.

³³⁸ Schedule 18.1.

³³⁹ Defendant’s Objections and Responses to Plaintiffs’ Interrogatories Set 9 (Nos. 34 – 40), p. 5.

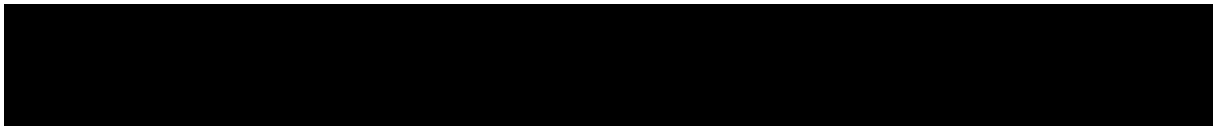
³⁴⁰ Schedules 17.1 – 17.5.

³⁴¹ Schedules 16.4 and 21.1 and Keegan Report, Table 7.

isolate unique clients who are Google account holders who were signed out of their account on the browser while in a private browsing mode.³⁴²

171. Taken together, the above calculations yield the following UMPBI for Class 1 during the period June 2016 through December 2021:

Figure 65
Unique Monthly Private Browsing Instances – Class 1:
June 1, 2016 – December 31, 2021³⁴³



8.2.2. Class 2

172. I then performed a similar analysis to determine the total number of UMPBI for Class 2.
173. The first step in this analysis was to calculate the total number of UMPBI for Other Private Browsing Modes in the U.S. during 2021. As detailed in the attached schedules, this was determined by first dividing the previously determined number of unique clients that used Incognito mode in the U.S. during each month of 2021 by Chrome's corresponding monthly market share.³⁴⁴ The resulting total UMPBI was then apportioned to Other Private Browsing Modes as a function of their respective monthly market shares. An additional apportionment was then applied to reflect the relative rates of private browsing mode usage among Edge/Internet Explorer and Safari users as indicated by the results of the Keegan survey.³⁴⁵ More specifically, I applied a 92.28% factor to the indicated UMPBI for Safari and a 62.89% factor to the indicated UMPBI for Edge/Internet Explorer.³⁴⁶ As detailed in the attached schedules, these calculations yield the estimated number of unique clients that used Other Private Browsing Modes in the U.S. during each month of 2021.³⁴⁷
174. The next step was to calculate the total number of UMPBI for Other Private Browsing Modes in the U.S. during the period June 2016 through December 2020. As previously discussed, Google's response to Plaintiffs' Interrogatory No. 36 included actual unique monthly Chrome instances during this period.³⁴⁸ I therefore estimated the total unique monthly instances in the U.S. for all browsers during this period by dividing the unique monthly Chrome instances in the U.S. by Chrome's corresponding monthly market share.³⁴⁹ The resulting total unique monthly browser instances were then apportioned to Edge/Internet Explorer and Safari as a function of their respective monthly market shares.³⁵⁰ An additional apportionment was then performed to isolate the UMPBI for each of the Other Private Browsing Modes. These apportionments were based on the previously discussed [REDACTED] factor, but adjusted to reflect the relative rates of private

³⁴² Schedule 16.4.

³⁴³ Schedule 16.3.

³⁴⁴ Schedule 17.6.

³⁴⁵ Keegan Report, Table 4.

³⁴⁶ Schedules 17.6 and 22.1.

³⁴⁷ Schedule 17.6. As previously discussed, this calculation was truncated in December 2021 for consistency with other calculations addressed in this report.

³⁴⁸ Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34 – 40), p. 5.

³⁴⁹ Schedules 17.1 – 17.5.

³⁵⁰ Schedules 17.1 – 17.5.

browsing mode usage among Edge/Internet Explorer and Safari users as indicated by the results of the Keegan survey.³⁵¹ As detailed in the attached schedules, these calculations yield the estimated number of unique clients that used Other Private Browsing Modes in the U.S. during each month between June 2016 and December 2020.³⁵²

175. As I understand that the Class definitions in this matter include limitations for users with Google accounts who were in a private browsing mode while not logged into their Google accounts on that browser, I made two additional adjustments to the number of unique clients calculated above. I first applied browser-specific factors to isolate unique clients who are Google account holders.³⁵³ More specifically, I applied factors of approximately 75.5% for Safari and 94.4% for Edge/Internet Explorer.³⁵⁴ I then applied an additional [REDACTED] factor to isolate unique clients who are Google account holders who were signed out of their account on the browser while in a private browsing mode.³⁵⁵
176. Finally, a further apportionment was applied to account for the fact that multiple browsers can be deployed on the same device. To inform this adjustment, I first searched across the available record and publicly available information for indications regarding the average number of browsers installed or used on a given device. As discussed below, while certain of Google's produced and public documents are informative, it is my opinion that the most probative data in this regard is set forth in the results of the survey performed by Mr. Keegan and detailed in the Keegan Report. As detailed in the Keegan Report, Mr. Keegan conducted a survey to obtain information regarding internet browser use, private browsing mode use, and the prevalence of Google account holding among potential members of the proposed Classes.³⁵⁶ The findings detailed in the Keegan Report provide information regarding respondents' use of multiple browsers during the period:

Figure 66
Keegan Report – Table 3³⁵⁷

<i>Table 3. Use of Multiple Browsers during Relevant Period</i>		
	n	%
<i>Chrome users (n=833)</i>		
Also used Safari and/or Edge/Internet Explorer	506	60.7
<i>Safari users (n=497)</i>		
Also used Chrome and/or Edge/Internet Explorer	369	74.2
<i>Edge / Internet Explorer users (n=439)</i>		
Also used Chrome and/or Safari	397	90.4

177. As indicated in the figure above, the results of the Keegan survey indicate considerable overlap among users of the Chrome, Safari, and Edge/Internet Explorer browsers. More specifically, approximately 74.2% of respondents who reported use of the Safari browser had also used Chrome and/or Edge/Internet Explorer and approximately 90.4% of respondents who reported use

³⁵¹ Schedules 17.1 – 17.5, 18.1, 22.1.

³⁵² Schedule 16.5.

³⁵³ Schedule 16.4.

³⁵⁴ Schedules 21.1 and 16.4 and Keegan Report, Table 7.

³⁵⁵ Schedule 16.4.

³⁵⁶ See, for example, Keegan Report, ¶¶ 2, 28.

³⁵⁷ Keegan Report, ¶ 58, Table 3.

of the Edge/Internet Explorer browser had also used Chrome and/or Safari.³⁵⁸ While the indicated overlap is not specific to the use of multiple browsers on a *single device*, it is my opinion that this data is a highly conservative indicator of the same. Indeed, the survey question underlying the figures above asked respondents about the types of internet browsers they had used *during the last five years*:

Figure 67
Keegan Report – Survey Question³⁵⁹

Which of the following Internet web browsers, if any, have you used in the last five years? Please select all that apply.

☐ Safari

☐ Edge / Internet Explorer

☐ Chrome

☐ Other

☐ Don't know

178. Based on the above, and in order to account for the fact that multiple browsers can be deployed on a single device, I reduced the estimated number of unique clients that used each of the Other Private Browsing Modes in the U.S. between June 2016 and December 2021 by the corresponding measure of overlap indicated in the survey results.³⁶⁰ More specifically, I reduced the estimated number of unique clients that used the private browsing mode in Safari by approximately 74.2% and I reduced the estimated number of unique clients that used the private browsing mode in Edge/Internet Explorer by approximately 90.4%.³⁶¹
179. Notably, the downward adjustments based on the survey results detailed in the Keegan Report are more conservative (*i.e.*, greater than) the downward adjustment implied by information in a May 2018 email among various Google personnel that included “Chrome Mobile tracker” meeting notes.³⁶² These meeting notes indicated that the [REDACTED].³⁶³ While it is not clear that this referred to the average number of browsers on a single device, it is my opinion that even this metric would be a conservative proxy for the same. In fact, Google’s online support pages seem to anticipate the use of three browsers on a single device, as Google specifically advises users to troubleshoot problems in Chrome by “*opening the page in another browser*” and trying to “[*use*] Firefox or Safari to load the page”:

³⁵⁸ Keegan Report, Table 3.

³⁵⁹ Keegan Report, Exhibit 3 (p. KEEGAN_EXHIBITS_20).

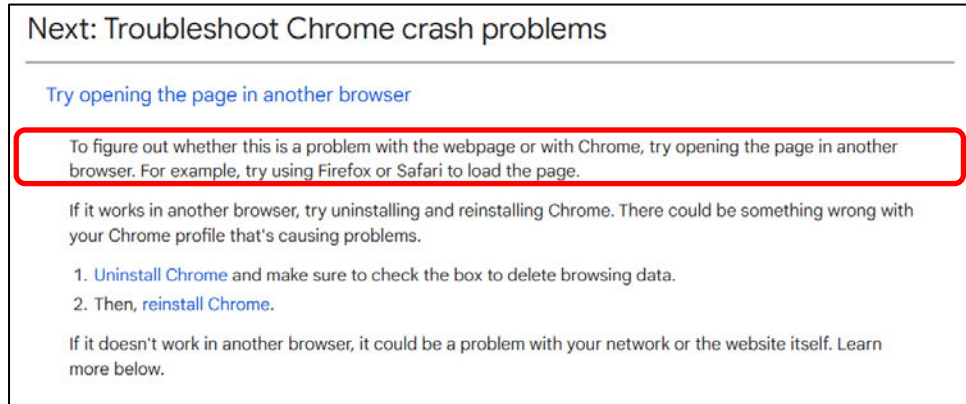
³⁶⁰ Schedules 16.2 and 23.1. As previously discussed, this calculation was truncated in December 2021 for consistency with other calculations addressed in this report.

³⁶¹ Schedules 16.2 and 23.1.

³⁶² GOOG-BRWN-00406281 – 283 at 282.

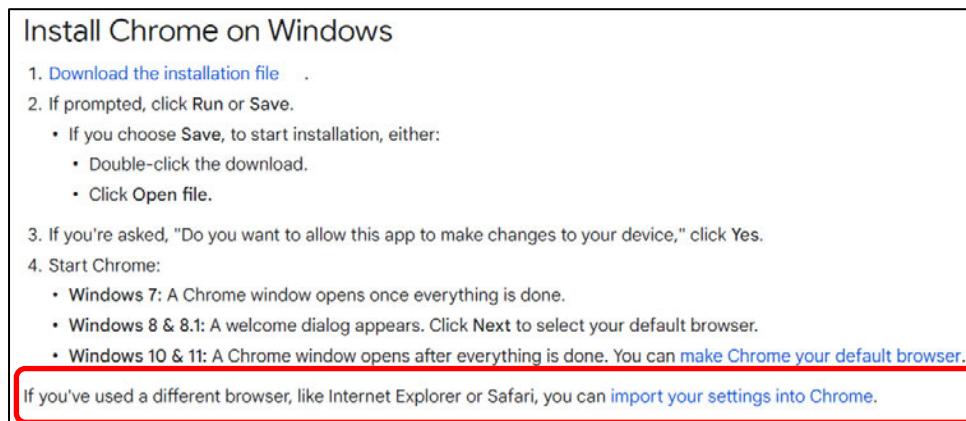
³⁶³ GOOG-BRWN-00406281 – 283 at 282. I note that accounting for potential overlap with this [REDACTED] would indicate an approximate [REDACTED] reduction in the estimated number of unique clients that used Other Private Browsing Modes.

Figure 68
Google Chrome Help – Troubleshoot Chrome Crash Problems³⁶⁴



180. Similarly, Google’s online support pages relating to Chrome installation advise users that “*if [they]’ve used a different browser, like Internet Explorer or Safari, [they] can import [their] settings into Chrome*”:

Figure 69
Google Chrome Help – Install Chrome on Windows³⁶⁵



181. The [REDACTED]” is also generally consistent with browser market share data discussed throughout this report and indicating that the U.S. browser market is largely held by Chrome, Safari, Edge/Internet Explorer, and Firefox.³⁶⁶
182. Based on the above and as detailed in the attached schedules, I reduced the estimated number of unique clients that used the private browsing mode in Safari by approximately 74.2% and the estimated number of unique clients that used the private browsing mode in Edge/Internet

³⁶⁴ “Fix Chrome if it crashes or won’t open” per Google Chrome Help at <https://support.google.com/chrome/answer/142063?hl=en&co=GENIE.Platform%3DAndroid&oco=1#zippy=%2Ctry-opening-the-page-in-another-browser> (accessed April 12, 2022). Emphasis added.

³⁶⁵ “Download & install Google Chrome” per Google Chrome Help at <https://support.google.com/chrome/answer/95346?hl=en&co=GENIE.Platform%3DDesktop> (accessed April 12, 2022). Emphasis added.

³⁶⁶ GOOG-BRWN-00406281 - 283 at 282.

Explorer by approximately 90.4%.³⁶⁷ These calculations yield the following UMPBI for Class 2 during the period June 2016 through December 2021:

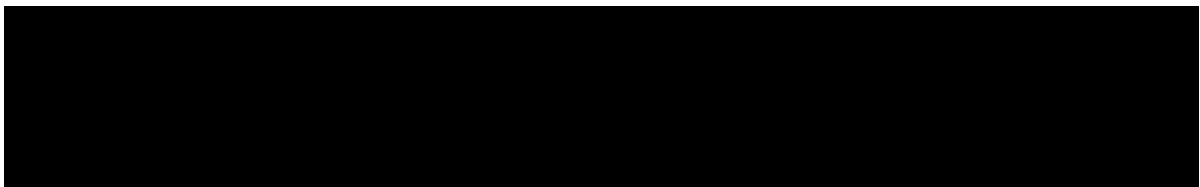
Figure 70
Unique Monthly Private Browsing Instances – Class 2:
June 1, 2016 – December 31, 2021³⁶⁸



8.3. Conclusion Regarding Actual Damages

183. In my opinion, the most probative indicator of the dollar amount necessary to incentivize an individual to knowingly relinquish the choice to keep certain browsing private and allow an organization to track all online activity is derived from the monthly compensation structure to participants in the Ipsos Screenwise Panel. More specifically, it is my opinion that the baseline payment to Screenwise Panel participants of \$3 per month for their use of a Screenwise browser extension or a Screenwise Meter app on a single device represents a conservative indicator of the monthly payment that would be necessary to compensate an individual for knowingly relinquishing his or her choice to keep certain browsing private and allowing Google to track all online activity.
184. To calculate total actual damages, this \$3 monthly rate can be multiplied by the number of unique monthly private browsing instances as discussed in Section 8.2 and summarized in the figure below.

Figure 71
Summary of Actual Damages:
June 1, 2016 – December 31, 2021³⁶⁹



9. STATUTORY DAMAGES

185. This section includes a discussion regarding the calculation of statutory damages, which I understand are being sought in connection with Plaintiffs' claims under the Federal Wiretap Act

³⁶⁷ Schedules 16.2 and 23.1.

³⁶⁸ Schedule 16.2.

³⁶⁹ Schedule 16.1. While my current calculations of actual damages cover the period June 1, 2016 through December 31, 2021, I could readily update these calculations to cover subsequent periods through the date of trial. Relatedly, to the extent that the trier of fact determines that the calculation of actual damages should start on a date later than June 1, 2016, the calculations attached to this report can be readily modified to reflect that alternative period.

as amended by the Electronic Communications Privacy Act of 1986 (*i.e.*, Count No. 1 in the Third Amended Complaint) and the California Invasion of Privacy Act (*i.e.*, Count No. 2 in the Third Amended Complaint). I am not offering an opinion as to any applicable legal standard or whether such damages should be calculated by the Court or the jury. My opinions below focus on how statutory damages could be calculated for the two Classes for the Class Period.

186. I understand that in the calculation of statutory damages, the primary quantitative inputs would be (1) the relevant damages rate and (2) the relevant base to which such a rate could be applied. I have not investigated or made any determination regarding the relevant damages rate, which I understand from Counsel could range from \$100 to \$10,000 per violation of the relevant statutes. I have instead evaluated the potential bases to which such rates could be applied. More specifically, I understand that as it relates to this matter, there are four potential bases to which a statutory damages rate could be applied:
- The number of individual pageloads in Incognito mode or Other Private Browsing Modes during the Class Period;
 - The number of unique monthly private browsing instances (“UMPBI”) across the Classes during the Class Period;
 - The number of unique private browsing instances across the Classes during the Class Period; and
 - The number of members in each Class during the Class Period.
187. My calculations of each of these bases are detailed in the attached schedules and summarized below.³⁷⁰

Private Browsing Pageloads Across the Classes Through December 31, 2021

188. As previously discussed, Google produced Incognito pageload data for the period August 2020 through February 2022. In its production of this data, Google represented that these numbers were based on “raw” UMA upload numbers, without accounting for different UMA upload rates on the different device platforms.³⁷¹ This means that the pageloads represented in Google’s data understate the actual number of Incognito pageloads during each month. To address this understatement, I applied the UMA upload rates for the individual device platforms as represented in Google’s prior production of UMA data and an April 5, 2022 email from Google’s counsel to Plaintiffs’ counsel.³⁷² Based on unexplained variance in Google’s pageload counts for the period August 2020 through October 2020 and the consistency of monthly data for 2021, I focused on the monthly data for full year 2021. As detailed in the attached schedules, these calculations yield the total number of Incognito pageloads in the U.S. during each month of 2021.³⁷³ I then quantified monthly pageloads for Other Private Browsing Modes in the U.S.

³⁷⁰ While my current calculations of the potential bases to which a statutory damages rate could be applied cover the period June 1, 2016 through December 31, 2021, I could readily update these calculations to cover subsequent periods through the date of trial. Relatedly, to the extent that the trier of fact determines that the calculation of statutory damages should start on a date later than June 1, 2016, the calculations attached to this report can be readily modified to reflect that alternative period.

³⁷¹ See, for example, GOOG-CABR-05886428, tab “Explanations”.

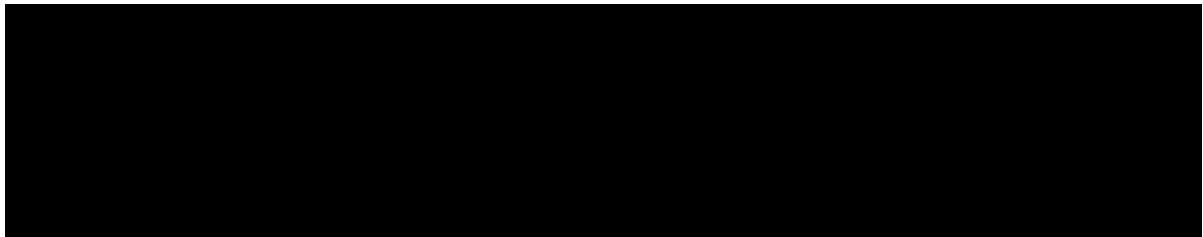
³⁷² Schedules 20.2 – 20.7; GOOG-CABR-04486714.xls, tab “Mainframe Page Loads Distributi”; Email from Tracey Gao re: “Brown v. Google – UMA data,” April 5, 2022.

³⁷³ Schedule 20.1. I truncated this calculation in December 2021 for consistency with other calculations addressed in this report.

during 2021 as a function of the Incognito pageloads and publicly available browser market share data by month.³⁷⁴

189. I then quantified the private browsing pageloads for each month during the period June 2016 through December 2020. As detailed in the attached schedules, this analysis involved the determination of the weighted average number of private browsing pageloads per UMPBI for Incognito and each of the Other Private Browsing Modes during 2021.³⁷⁵ I then multiplied these browser-specific weighted average private browsing pageloads per UMPBI by the previously determined UMPBI for Incognito and each of the Other Private Browsing Modes for the period June 2016 through December 2020.³⁷⁶ These calculations yield the total private browsing pageloads for Incognito and Other Private Browsing Modes during the period June 2016 through December 2021. I then adjusted these total private browsing pageloads to isolate the subset of private browsing pageloads on non-Google websites.³⁷⁷ For this adjustment, I applied a [REDACTED] apportionment factor, consistent with Google documents indicating that Analytics or Analytics 360 – which I understand are Google tracking beacons at issue in this matter – are [REDACTED].³⁷⁸
190. I then made two additional adjustments to the private browsing pageloads for Incognito and each of the Other Private Browsing Modes. I first applied browser-specific factors to isolate Google account holders. More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.³⁷⁹ I then applied an additional [REDACTED] factor to isolate Google account holders who were signed out of their account on the browser while in a private browsing mode.³⁸⁰ These calculations yield the following private browsing pageloads for Incognito and Other Private Browsing Modes during the period June 2016 through December 2021:

Figure 72
Estimated Private Browsing Pageloads: June 1, 2016 – December 31, 2021³⁸¹



UMPBI Across the Classes Through December 31, 2021

191. I previously discussed my analysis of UMPBI for Class 1 and Class 2 during the period June 2016 through December 2021 in Sections 8.2.1 and 8.2.2, respectively. My conclusions in this regard are summarized in the figure below.

³⁷⁴ Schedule 20.1.

³⁷⁵ Schedule 24.3.

³⁷⁶ Schedule 24.2.

³⁷⁷ Schedule 24.1.

³⁷⁸ Schedule 24.1 and GOOG-BRWN-00490767 – 936 at 772.

³⁷⁹ Schedules 21.1 and 24.1 and Keegan Report, Table 7.

³⁸⁰ Schedule 24.1.

³⁸¹ Schedule 24.1.

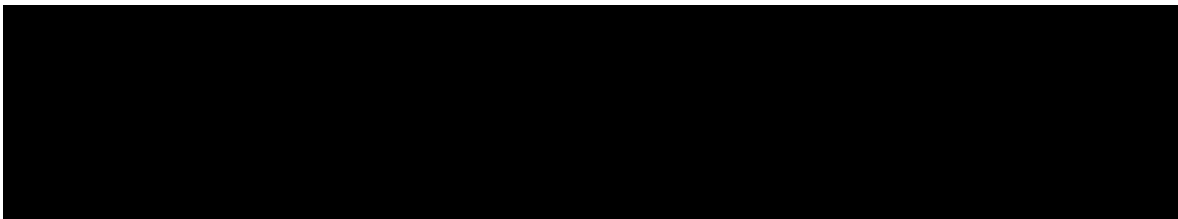
Figure 73
Estimated UMPBI – Adjusted for Google Account Use and Signed Out Private Browsing:
June 1, 2016 – December 31, 2021³⁸²



Unique Private Browsing Instances Across the Classes and Class Period

192. I also estimated the number of unique Incognito or Other Private Browsing Mode instances for the period June 2016 through December 2021. As previously discussed, Google represents that it does not and cannot capture data on a per *user* basis and instead captures data on a per *instance* basis.³⁸³ Based on Google's representation and the general increase of UMPBI during the period, I conservatively estimated these unique instances based on each browser's peak UMPBI during 2021.³⁸⁴ The selection of the peak UMPBI for each browser helps to mitigate potential double-counting of instances for users who browsed in Incognito or Other Private Browsing Modes in more than one period. The selection of the peak UMPBI for each browser is also highly conservative, as it would be understated by instances associated with users who only browsed in Incognito or Other Private Browsing Modes during a non-peak month of 2021 or any month before 2021.
193. I then made two additional adjustments to the peak UMPBI for Incognito and Other Private Browsing Modes. I first applied browser-specific factors to isolate Google account holders. More specifically, I applied factors of approximately 91.6% for Chrome, 75.5% for Safari, and 94.4% for Edge/Internet Explorer.³⁸⁵ I then applied an additional [REDACTED] factor to isolate Google account holders who were signed out of their account on the browser while in a private browsing mode.³⁸⁶ The application of these factors yield the following estimates of unique Incognito or Other Private Browsing Modes instances as of December 31, 2021:

Figure 74
Estimated Unique Private Browsing Instances: Through December 31, 2021³⁸⁷



³⁸² Schedule 16.4.

³⁸³ Deposition of Ramin Halavati, January 18, 2022, pp. 188, 206.

³⁸⁴ Schedule 25.2.

³⁸⁵ Schedules 21.1 and 25.1 and Keegan Report, Table 7.

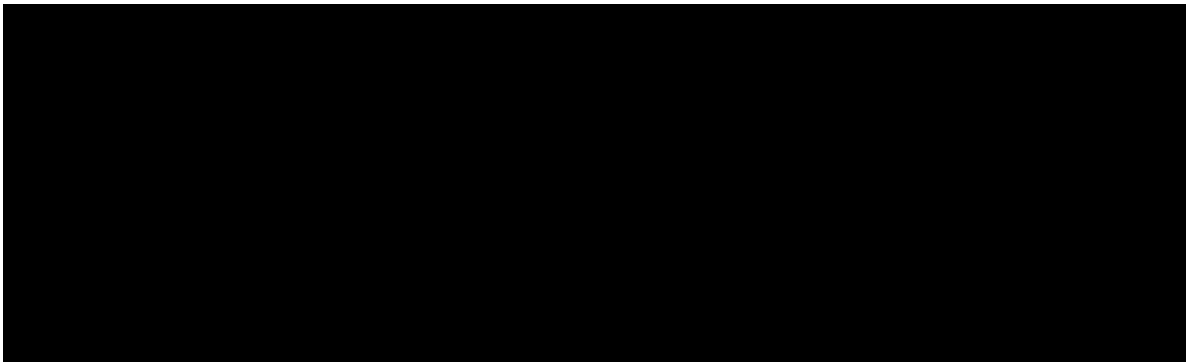
³⁸⁶ Schedule 25.1.

³⁸⁷ Schedule 25.1.

Members in Each Class During the Class Period

194. I also estimated the number of individual members of in each Class (individual users) during the Class Period as a function of publicly available data regarding the portion of the U.S. population that used the internet during 2021 and 2021 U.S. market share by browser, indications from the Keegan survey results regarding the share of respondents who used private browsing modes and the share of private browsing users that had a Google account, and the previously discussed [REDACTED] factor to isolate Google account holders who were signed out of their account on the browser while in a private browsing mode.³⁸⁸ I note that basing this calculation on the portion of the U.S. population that used the internet during 2021 helps to mitigate potential double-counting of individuals who used the internet in more than one period. Basing this calculation on the portion of the U.S. population that used the internet during 2021 is also highly conservative, as it is understated by individuals who only used the internet prior to 2021.
195. My calculations in this regard are detailed in the attached schedules and summarized in the figure below.

Figure 75
Estimated Class Members Through December 31, 2021³⁸⁹



10. APPORTIONING MONETARY RELIEF TO THE CLASS

196. All of the calculations discussed in this report and detailed in the corresponding schedules can be readily apportioned across the two Classes and among Class members and, if required and relevant, to only those Class members in California.
197. For example, any permutation of my analyses of Google's unjust enrichment attributable to the alleged wrongful conduct or actual damages could be readily allocated across Classes and among Class members by first dividing the total dollar value of any monetary relief determined by the trier of fact by the total number of UMPBI during the Class Period.³⁹⁰ The resulting dollar value of unjust enrichment or restitutionary damage per UMPBI could then be distributed to Class members in the claims administration process as a function of the number of UMPBI deemed attributable to each Class member. Alternatively, and to the extent Google has deleted private browsing data that could have been used to attribute UMPBI to Class members,³⁹¹ it would be

³⁸⁸ Schedule 26.1

³⁸⁹ Schedule 26.1.

³⁹⁰ If damages were awarded for a period other than the entire Class Period, the denominator in this calculation would need to be adjusted to match that damages period.

³⁹¹ Hochman Report, Opinions 20 and 24.

possible to use the above Class member calculations for apportionment. If required and relevant, further allocations for Class members in California could be performed based on publicly available data such as the population of California as a percentage of the total U.S. population.

198. My analyses of the monetary relief that can be awarded in this case can be readily used as common proof in part because they can be adjusted to calculate and assess unjust enrichment, actual damages, and/or statutory damages for different periods of time and subclass(es), depending on any rulings by the Court and findings by a jury.

11. SIGNATURE

Respectfully,

A handwritten signature in black ink, appearing to read "Michael J. Lasinski", written over a horizontal line.

Michael J. Lasinski

April 22, 2022

Date

Appendix A



MICHAEL J. LASINSKI

CURRICULUM VITAE

April 2022

Michael J. Lasinski is a senior managing director at Ankura Consulting Group where he heads the intellectual property (IP) group. Previously, he was a founding member of 284 Partners, LLC, a professional services firm focused on IP valuation, litigation consulting, IP strategy, and transactional services. Over the past twenty years, Mr. Lasinski has consulted on hundreds of engagements pertaining to IP-centric transactions, IP valuations, and IP damages analyses.

Mr. Lasinski is a recognized expert on financial aspects of intellectual property. He is a *Past-President of the Licensing Executives Society* (LES), one of the country's largest intellectual property licensing trade organizations. Mr. Lasinski was also named one of the *World's 300 Leading IP Strategists* by Intellectual Asset Management. He is a past *Division Chair for the Intellectual Property Section of the American Bar Association*. He is a former *Chair of the Valuation and Taxation Committee for LES* and a former *Vice Chair of the Intellectual Property Owners' Valuation and Taxation Committee*. Mr. Lasinski is a Certified Public Accountant and an active member of the American Institute of Certified Public Accountants (AICPA) and the Illinois CPA Society. He is Certified in Financial Forensics by the AICPA and is a Certified Licensing Professional as initiated by the LES.

Mr. Lasinski has been retained and has testified as an expert in federal, ITC, state, tax and arbitration proceedings. Mr. Lasinski was retained by Boeing as the sole agent for licensing its technology into the automotive sector. He was instrumental in advising creditors and other interested parties on IP and financial issues related to the sale of Nortel's patent portfolio for more than \$4.5 billion. Mr. Lasinski's consulting experience includes a broad cross-section of industries, including the advertising, automotive, chemicals, computer hardware & software, consumer products, e-commerce, food & beverage, Internet, healthcare, life sciences, medical devices & related products, semiconductors, telecommunications, and wireless communications.

Mr. Lasinski has helped clients strategically manage their IP by creating global corporate organizations designed to maximize the current and future value of their intellectual property. His experience includes acquisitions, divestitures, mergers, joint ventures and bankruptcy. He has been a financial advisor to creditor committees, private equity companies, venture capitalists and Fortune 500 companies on numerous occasions. Mr. Lasinski was selected to be one of the developers/reviewers of the American Society of Appraisers Advanced Valuation Courses. He has lectured on intellectual property valuation for university business schools, law schools, the USPTO and other regulatory agencies.

Prior to focusing on IP, Mr. Lasinski was an automotive engineer and OEM program manager. Mr. Lasinski developed software for remote keyless entry and anti-theft systems. He was also responsible for airbag diagnostics, in-vehicle phone systems and other products.



**PROFESSIONAL
EXPERIENCE**

Senior Managing Director, Ankura Consulting Group, Dec. 2019 – Present

Managing Director & CEO, 284 Partners, 2010 – Dec. 2019

Managing Director, Capstone, 2009 – 2010

Managing Director, Ocean Tomo, 2006 – 2009

Executive Director, Center for Applied Innovation, 2005 – 2006

Vice President, Charles River Associates, 2004 – 2005

Managing Director, InteCap (now Charles River Associates), 1999 – 2004

Associate, IPC Group (now Charles River Associates), 1995 – 1999

Staff Accountant, Coopers & Lybrand (now PriceWaterhouseCoopers), 1994 – 1995

Program Manager, Ford Motor Company, 1989 – 1993

**EDUCATION /
LICENSES /
PROFESSIONAL
ASSOCIATIONS**

M.B.A., Finance and Accounting, The University of Michigan, with High Distinction

B.S.E.E., Electrical Engineering, The University of Michigan, Summa Cum Laude

Licensed CPA (State of Illinois)

American Institute of Certified Public Accountants

Illinois CPA Society

Certified in Financial Forensics (CFF)

Licensing Executives Society, Past President (former Valuation and Taxation Committee Chair)

Certified Licensing Professional (CLP)

Intellectual Property Owners Organization, Founder and Former Vice Chair, Valuation and Taxation Committee

American Bar Association, Former-Chair of the Intellectual Property Section Division, Former-Chair of the Economics of the Profession Committee

UNIVERSITY INSTRUCTION & IP VALUATION COURSE INSTRUCTION	Franklin Pierce Law Center
	John Marshall Law School
	University of Notre Dame, Mendoza College of Business
	University of Michigan, Ross School of Business
	US Joint Committee on Taxation, Ad-hoc group for IP valuation
	US Chamber & USPTO to Chinese State Intellectual Property Office
	Multiple courses for:
	<ul style="list-style-type: none"> ▪ Licensing Executives Society ▪ American Bar Association ▪ Intellectual Property Owners Organization ▪ Industrial Research Institute ▪ Many other IP Symposiums

PUBLICATIONS **Article:** “Assessing the reasonableness of 5G headline royalty rates,” IAM (Law Business Research), September 8, 2021, with Philip W. Kline and Alejandra Loaiza-Delgado

Book Chapter: The New Role of Intellectual Property in Commercial Transactions, Cumulative Supplement, 1997, with Andrew W. Carter. “Financial Accounting and Reporting Considerations, Supplementary Material”

Article: “IP Survey Finds ‘Gap’ in Information,” les Nouvelles, Volume XXXIII No. 3, September 1998, with Daniel M. McGavock.

Book Chapter: Intellectual Property in the Global Marketplace, Volume 1, Valuation, Protection, Exploitation, and Electronic Commerce, 2nd Edition, Melvin Simensky, Lanning Bryer and Neil J. Wilkof, September 1999, with Andrew W. Carter. Chapter 8: “Financial Accounting and Reporting Considerations”

Book Chapter: Intellectual Property Assets in Mergers and Acquisitions, Lanning Bryer & Melvin Simensky, December 2001. Chapter 4: “Valuation of Intellectual Property Assets in Mergers and Acquisitions”

**PUBLICATIONS**

Article: “Investing in IP,” European CEO, November-December 2007.

Article: “Patent Attorney Malpractice: What’s the Value of Nonexistent Patent Rights?” Landslide (a publication of the American Bar Association Section of Intellectual Property Law), January/February 2010, with Richard Conroy. Franklin Pierce Law Center

Article: “A look at licensing in the year ahead” IAM Licensing 250 2010: The World’s Leading Patent & Technology Licensing Lawyers (a publication of Intellectual Asset Magazine – The IP Media Group), December 2010

Article: “Introduction: A brief perspective on IP valuation” IP Value 2011 – An International Guide for the Boardroom (a publication of Intellectual Asset Magazine – The IP Media Group), January 2011

Article: “25%ルール」を否定したUniloc判決の影響～会計・訴訟対応の視点から～” (Article about *Uniloc* published in Japanese) Nikkei IP Awareness, January 20, 2011, with Kevin Arst

Article: “Licensing in 2011 and Beyond: Observations on Intellectual Property Quality, Value and Sale” WIPR, World Intellectual Property Review – Digest 2010, February 2011

**EXPERT
TESTIMONY**

Mediatek, Inc. and MediaTek USA Inc. v. NXP Semiconductors N.V. et al.

Investigation No.: 337-TA-1272

Industry: Semiconductors

Venue: United States International Trade Commission

Confidential Arbitration on behalf of HTC Corporation

ICC Case No.: 24176/MK

Industry: Telecommunications

Venue: International Chamber of Commerce, International Court of Arbitration

GE Transportation Parts, LLC v. Central Railway Manufacturing, LLC

Case No.: 1:19-cv-04826-AJN

Industry: Locomotive

Venue: Southern District of New York



**EXPERT
TESTIMONY**

In the Matter of Certain UMTS and LTE Cellular Communication Modules and Products Containing the Same (Quectel and Telit)

Investigation No. 337-TA-1240

Industry: Communication Modules

Venue: United States International Trade Commission

Syngenta Crop Protection, LLC v. Atticus, LLC

Case No. 5:19-cv-00509-D

Industry: Agrichemical, Fungicides

Venue: United States District Court, Eastern District of North Carolina

Commonwealth of Kentucky v. Stars Interactive Holdings (ION) LTD, et al.

Civil Action No. 10-CI-00505

Industry: Internet Gaming

Venue: Commonwealth of Kentucky, Franklin Circuit Court, Divisions II

Monarch Networking Solutions LLC v. Cisco Systems, Inc.

Case No. 2:20-cv-00015

Industry: Network Routing

Venue: United States District Court, Eastern District of Texas

Certain Smart Thermostats, Smart HVAC Systems, and Components Thereof

Inv. No. 337-TA-1185

Industry: HVAC

Venue: United States International Trade Commission

Confidential Arbitration on behalf of Syngenta Crop Protection AG

AAA Case Nos. 01-19-0002-4192 and 01-19-0002-4208

Industry: Herbicides

Venue: American Arbitration Association

Eaton Steel Bar Company, Inc. v. Plex Systems, Inc.

Case No. 2019-173411-CB

Industry: Business Software

Venue: State of Michigan, Oakland County Circuit Court

Bell Northern Research, LLC v. ZTE Corporation et al.

Case No. 3:18-CV-01786

Industry: Consumer Electronics

Venue: United States District Court, Southern District of California



**EXPERT
TESTIMONY**

Confidential Arbitration on behalf of Syngenta Crop Protection AG

CPR File No. G-19-24-G

Industry: Insecticides

Venue: CPR Institute for Dispute Resolution

Fundamental Innovation Systems International LLC v. ZTE Corporation et al.

Case No. 3:17-cv-01827

Industry: Consumer Electronics

Venue: United States District Court, Northern District of Texas

Looksmart Group, Inc. v. Microsoft Corporation

Case No. 3:17-cv-4709

Industry: Search Engines

Venue: United States District Court, Northern District of California

Louisiana-Pacific Corporation v. James Hardie Building Products, Inc. v. The Kruse Brothers, Inc.

Case No. 3:18-cv-00447

Industry: Manufactured Siding

Venue: United States District Court, Middle District of Tennessee

In Re: Qualcomm Antitrust Litigation (Merits)

Case No. 5:17-cv-0773

Industry: Telecommunications

Venue: United States District Court, Northern District of California

Novartis Vaccines and Diagnostics, Inc., et al. v. Regeneron Pharmaceuticals, Inc.

Case No. 18-cv-2434-DLC

Industry: Pharmaceuticals

Venue: United States District Court, Southern District of New York

Intellectual Ventures II LLC v. Bitco General Insurance Corp. et al. and Great West Casualty Co.

Case Nos. 6:18-cv-00298 and 6:18-cv-00299

Industry: Insurance

Venue: United States District Court, Eastern District of Texas

Confidential Appeals Pre-Conference on behalf of the United States Internal Revenue Service

Valuation Issue Related to Transfer Pricing Dispute

Venue: Internal Revenue Service Office of Appeals



**EXPERT
TESTIMONY**

In the Matter of: Memory Modules and Components Thereof – SK hynix, Inc.

Investigation No. 337-TA-1089

Industry: Semiconductor

Venue: United States International Trade Commission

Federal Trade Commission v. Qualcomm Incorporated

Case No. 5:17-cv-00220

Industry: Telecommunications

Venue: United States District Court, Northern District of California

In Re: Qualcomm Antitrust Litigation (Class Certification)

Case No. 5:17-cv-0773

Industry: Telecommunications

Venue: United States District Court, Northern District of California

Huawei Technologies Co., Ltd., et al. v. Samsung Electronics Co., Ltd., et al.

Case No. 3:16-cv-02787

Industry: Telecommunications

Venue: United States District Court, Northern District of California

Daniel Grellner v. Rodney D. Raabe et al.

Case No. 2:15-cv-00189

Industry: Medical Implants

Venue: United States District Court, Eastern District of Washington

The Coca-Cola Company & Subsidiaries v. Commissioner of Internal Revenue

Tax Court Docket No. 31183-15

Industry: Food & Beverage

Venue: United States Tax Court

Evolved Wireless, LLC v. ZTE Corporation et al.

Case No. 1:15-cv-00546-SLR-SRF

Industry: Telecommunications

Venue: United States District Court, District Court of Delaware

Implicit, LLC v. Trend Micro, Inc. et al.

Case No. 6:616-cv-00080-JRG

Industry: Network Security

Venue: United States District Court, Eastern District of Texas

**EXPERT
TESTIMONY**

***In the Matter of: Certain Memory Modules and Components Thereof, and
Products Containing the Same – SK hynix, Inc.***

Investigation No.: 337-TA-1023

Industry: Semiconductor

Venue: United States International Trade Commission

Unwired Planet International Ltd., et al. v. Huawei Technologies Co. Ltd., et al.

Claim No. HP-2014-000005

Industry: Telecommunications

Venue: High Court of Justice of England and Wales, Chancery Division, Patents
Court

***Green Mountain Glass, LLC and Culchrome, LLC v. Saint-Gobain Containers,
Inc. d/b/a Verallia North America***

Case No. 1:14-cv-00392

Industry: Glass Recycling

Venue: United States District Court, District Court of Delaware

Quest Licensing Corporation v. Bloomberg LP, et al.

Case No. 1:14-cv-00561

Industry: Financial Data Services

Venue: United States District Court, District Court of Delaware

Jezign Licensing, LLC v. Skechers U.S.A., Inc.

Case No. 8:16-cv-01193

Industry: Fashion and Retail

Venue: United States District Court, District of Maryland

Avago Technologies U.S. Inc. et al. v. IPtronics Inc., et al.

Case No. 5:10-cv-02863

Industry: Fiber Optic Data Communications

Venue: United States District Court, Northern District of California

Confidential Arbitration on behalf of Huawei Technologies Co. Ltd.

ICDR Case Number: 01-14-0002-2610

Industry: Telecommunications

Venue: International Centre for Dispute Resolution

Eaton Corporation and Subsidiaries v. Commissioner of Internal Revenue

Tax Court Docket No. 5576-12

Industry: Industrial and Residential Electrical Apparatus

Venue: United States Tax Court



**EXPERT
TESTIMONY**

Confidential Arbitration on behalf of Nokia Corporation

Case Number: 19602/AGF

Industry: Telecommunications

Venue: International Chamber of Commerce, International Court of Arbitration

CardioNet, Inc. v. The ScottCare Corp., et al.

Case No. 2:12-cv-02516

Industry: Medical Devices

Venue: United States District Court, Eastern District of Pennsylvania

Mobile Telecommunications Technologies, LLC v. United Parcel Service, Inc.

Case No. 1:12-cv-03222-AT

Industry: Telecommunications / Shipping

Venue: United States District Court, Northern District of Georgia

Numatics, Inc. v. Balluff, Inc. and H.H. Barnum Company

Case No. 2:13-cv-11049-DML-MKM

Industry: Industrial Automation Equipment

Venue: United States District Court, Eastern District of Michigan

Amazon.com, Inc. & Subsidiaries v. Commissioner of Internal Revenue

Tax Court Docket No. 31197-12

Industry: E-Commerce

Venue: United States Tax Court

In the Matter of: Certain Wireless Devices with 3G and/or 4G Capabilities and Components Thereof – Client ZTE Corporation

Investigation No. 337-TA-868

Industry: Consumer Electronics

Venue: United States International Trade Commission

NeoMedia, Inc. v. Scanbuy, Inc.

Case No. 13 117 01730 12

Industry: Consumer Electronics

Venue: American Arbitration Association, New York

In the Matter of: Certain Wireless Devices with 3G Capabilities and Components Thereof – Client ZTE Corporation

Investigation No. 337-TA-800

Industry: Consumer Electronics

Venue: United States International Trade Commission



**EXPERT
TESTIMONY**

Multimedia Patent Trust v. Canon, Inc., Canon U.S.A., et al.

Case No. 10-cv-02618

Industry: Consumer Electronics

Venue: United States District Court, Southern District of California

Realtime Data d/b/a/ IXO v. MetroPCS Texas, LLC, et al.

Case No. 1:12-cv-10204

Industry: Telecommunications

Venue: United States District Court, Eastern District of Texas

***Zecotek Imaging Systems Pte. Ltd. and Beijing Opt-Electronics Technology Co.,
v. Saint-Gobain Ceramics & Plastics, Inc. et al.***

Case No. 5:12-cv-01533

Industry: Medical Device Manufacturing

Venue: United States District Court, Northern District of Ohio

Warrior Sports, Inc. v. Dickinson Wright, PLLC, et al.

Case No. 09-cv-12102

Industry: Sports Equipment

Venue: United States District Court, Eastern District of Michigan

In Re: Eastman Kodak Company et al.

Case No. 1:12-cv-10204

Industry: Digital Imaging

Venue: United States Bankruptcy Court, Southern District of New York

Procter & Gamble Company v. United States of America

Case No. 1:08-cv-00608

Industry: Pharmaceutical & Consumer Products

Venue: United States District Court, Southern District of Ohio

Pittsburgh Standard Spine Co. v. Lanx, Inc.

Case No. 1:09-cv-01062

Industry: Medical Devices

Venue: United States District Court, District of Colorado

MacroGenics, Inc. v. Centocor, Inc. and Ortho-McNeil Pharmaceutical, Inc.

CPR File No. G-09-08

Industry: Pharmaceutical

Venue: American Arbitration Association, New York



**EXPERT
TESTIMONY**

MiraVista Diagnostics et al. v. Indiana University R&D et al.

Case No. 49D04-0603-PL-009827

Industry: Medical Devices

Venue: Indiana State Court

Vaxiion Therapeutics, Inc. v. Foley & Lardner, LLP et al.

Case No. 3:07-cv-00280

Industry: Pharmaceutical & Medical products

Venue: United States District Court, Southern District of California

Schütz Container Systems, Inc. v. Mauser Corp. and National Container Group, LLC

Case No. 1:09-cv-03609

Industry: Shipping Containers

Venue: United States District Court, Northern District of Georgia

In re: Composite Technologies Corporation, et al. (Client Partners for Growth II, LP)

Case No. 8:11-bk-15058

Industry: General Manufacturing

Venue: United States Bankruptcy Court, Central District of California

Joseph Chernesky v. Ronald Epstein et al.

Case No. 491041

Industry: Patent Monetization

Venue: Superior Court of California, County of San Mateo

Service Employees International Union, CTW/CLC et al. v. SEIU United Healthcare Workers-West, et al.

Case No. 3:09-cv-0404

Industry: Labor Union

Venue: United States District Court, Northern District of California

Frank T. Shum v. Intel Corporation et al.

Case No. 4:02-cv-03262

Industry: Telecommunications Equipment

Venue: United States District Court, Northern District of California

DigaComm, LLC v. Vehicle Safety and Compliance, LLC et al.

Case No. 08-338

Industry: Telecommunications Equipment

Venue: American Arbitration Association, Delaware

**EXPERT
TESTIMONY*****Landmark Screens, LLC v. Pennie & Edmonds, et al.***

Case No. 74 194 Y 01059 60 DEAR

Industry: General Electronics

Venue: American Arbitration Association

Simpliance, Inc., et al. v. WM. Bruce Davis, Esq.

Case No. A0503866

Industry: Software

Venue: Hamilton County, Ohio Municipal Court

Procter & Gamble Company, and Subsidiaries et al. v. United States of America

Case No. 1:05-cv-00355

Industry: Consumer Products

Venue: United States District Court, Southern District of Ohio

Tenneco Automotive Operating Company, Inc. v. Visteon Corporation

Case No. 1:03-cv-01030

Industry: Automotive Components

Venue: United States District Court, District of Delaware

**PATENTS AND
APPLICATIONS**

- 7,885,897 Intellectual Property Trading Exchange and a Method for Trading Intellectual Property Rights
- 7,987,142 Intellectual Property Trading Exchange
- 8,180,711 Intellectual Property Trading Exchange
- 8,355,932 System and Method for Managing Intellectual Property Based Risks
- 8,554,687 Intellectual Property Trading Exchange and a Method for Trading Intellectual Property Rights
- Application 20090070150 Methods and Systems for Managing the Risks of Patent Coverage
- Application 20110295757 Intellectual Property Trading Exchange
- WO 2006113551 An Intellectual Property Trading Exchange and a Method for Trading Intellectual Property Rights

**PATENTS AND
APPLICATIONS**

- WO 2012074668 Intellectual Property Trading Exchange
- WO 2011126616 Intellectual Property Trading Exchange

CONTACT

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(312) 485-8500 Cell
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Appendix B

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Bates Stamped Documents:

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GOOG-CABR-03956603 - 606
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GOOG-CABR-05886433
GOOG-CABR-X-00000421 - 426
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GOOG-CABR-X-00001225

Other Produced Documents

Email from T Gao re: Brown v Google – UMA data, April 5, 2022
Letter from T Fani re: Google production Volume X-011, April 14, 2022

Depositions with Exhibits:

Deposition of Sammit Adhya, November 19, 2021
Deposition of Jesse Adkins, April 14, 2021
Deposition of Audrey An, March 22, 2022
Deposition of Glenn Berntson, March 18, 2022
Deposition of Glenn Berntson, June 16, 2021
Deposition of Deepti Bhatnagar, February 17, 2022
Deposition of Stephen Chung, March 10, 2022
Deposition of Ramin Halavati, January 18, 2022
Deposition of Gregory Lon Fair, January 6, 2022
Deposition of Gregory Lon Fair, December 14, 2021
Deposition of Steve Ganem, February 11, 2022
Deposition of Steve Ganem, March 23, 2022
Deposition of Michael Kleber, January 14, 2022
Deposition of Michael Kleber, March 18, 2022
Deposition of Bert Leung, March 4, 2022
Deposition of Chris Liao, December 2, 2021
Deposition of Chris Liao, December 3, 2021
Deposition of Mandy Liu, March 8, 2022
Deposition of Abdelkarim Mardini, November 23, 2021
Deposition of Abdelkarim Mardini, November 24, 2021
Deposition of Rory McClelland, February 18, 2022
Deposition of David Monsees, April 9, 2021
Deposition of Christopher Palmer, January 5, 2022
Deposition of Dr Adrienne Porter Felt, November 16, 2021
Deposition of Dr Adrienne Porter Felt, March 17, 2022
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Deposition of Caitlin Sadowski, March 10, 2022
Deposition of Justin Schuh, January 6, 2022
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Deposition of Martin Shelton, March 2, 2022
 Deposition of Sonal Singhal, March 10, 2022
 Deposition of Alexei Svitkine, October 4, 2021
 Deposition of Troy Walker, March 24, 2022

Expert Reports:

Expert Report of Jonathan E. Hochman, April 15, 2022
 Expert Report of Mark Keegan, April 15, 2022
 Expert Report of Bruce Schneir, April 15, 2022
 Expert Report of Steven Weisbrot, April 15, 2022

Pleadings:

Third Amended Complaint, March 18, 2022, Case No. 5:20-cv-03664-YGR
 Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40)

Public Sources:

Alphabet Form 10-K for the fiscal year ended December 31, 2021
 Alphabet Form 10-K for the fiscal year ended December 31, 2019
 Alphabet Form 10-K for the fiscal year ended December 31, 2018
 Google Privacy Policy at <https://policies.google.com/privacy> (accessed March 22, 2022)
 "A fresh take on the browser" per Google Official Blog at <https://googleblog.blogspot.com/2008/09/fresh-take-on-browser.html> (accessed March 14, 2022)
 "About audience targeting" per Google Ads Help at <https://support.google.com/google-ads/answer/2497941?hl=en> (accessed March 15, 2022)
 "About conversion tracking" per Google Ads Help at <https://support.google.com/google-ads/answer/1722022?hl=en> (accessed March 14, 2022)
 "About the Ipsos Screenwise Panel" per Ipsos at <https://screenwisepanel.com/home> (accessed March 15, 2022)
 "Ads on embedded videos" at "YouTube Help" per <https://support.google.com/youtube/answer/132596?hl=en> (accessed March 14, 2022)
 "AT&T Offers Data Privacy – for a Price" at Wall Street Journal per <https://www.wsj.com/articles/BL-DGB-40475> (accessed March 12, 2022)
 "AT&T offers gigabit Internet discount in exchange for your Web history" at Ars Technica per <https://arstechnica.com/information-technology/2013/12/att-offers-gigabit-internet-discount-in-exchange-for-your-web-history/> (accessed March 1, 2022)
 "AT&T to end targeted ads program, give all users lowest available price" at Ars Technica per <https://arstechnica.com/information-technology/2016/09/att-to-end-targeted-ads-program-give-all-users-lowest-available-price/> (accessed March 1, 2022)
 "Behavioral targeting" per Display & Video 360 Help at <https://support.google.com/displayvideo/answer/2879688?hl=en> (accessed March 14, 2022)
 "Bring your story to life with Video ads" at <https://ads.google.com/home/campaigns/video-ads/> (accessed March 14, 2022)
 "Data Privacy Day: seven ways we protect your privacy" per <https://blog.google/technology/safety-security/data-privacy-day-seven-ways-we-protect-your-privacy/> (accessed March 22, 2022)
 "Download & install Google Chrome" per Google Chrome Help at <https://support.google.com/chrome/answer/95346?hl=en&co=GENIE.Platform%3DDesktop> (accessed April 12, 2022)
 "Fix Chrome if it crashes or won't open" per Chrome Help at <https://support.google.com/chrome/answer/142063?hl=en&co=GENIE.Platform%3DAndroid&oco=1#zippy=%2Ctry-opening-the-page-in-another-browser> (accessed April 12, 2022)
 "G is for Google" per Alphabet at <https://abc.xyz/> (accessed March 14, 2022)
 "Google AdSense – Home" per Google AdSense at <https://www.google.com/adsense/start/> (accessed March 14, 2022)
 "Google Display & Video 360" per End to End Campaign Management at <https://marketingplatform.google.com/about/display-video-360/> (accessed March 15, 2022)
 "Google Panel Privacy Policy" at <https://screenwisepanel.com/google-panel-privacy-policy> (accessed April 7, 2022)
 "Google paying users to track 100% of their Web usage via little black box" at <https://arstechnica.com/gadgets/2012/02/google-paying-users-to-track-100-of-their-web-usage-via-little-black-box/> (accessed March 14, 2022)
 "Google Screenwise pays opt-in users for expanded web tracking" at <https://www.theverge.com/2012/2/8/2785751/google-screenwise-panel-web-monitoring-knowledge-networks> (accessed March 14, 2022)
 "How Google uses conversion event data" per Google Ads Help at https://support.google.com/google-ads/answer/93148?hl=en&ref_topic=3119146 (accessed March 15, 2022)
 "How it Works" per <https://www.joinupvoice.com/> (accessed March 14, 2022)
 "How it Works" per https://www.surveysavvy.com/how_it_works (accessed March 13, 2022)
 "How much can I make" per <https://www.joinupvoice.com/faq#rewards-plan> (accessed March 21, 2022)
 "Ipsos Screenwise Panel Cookie Policy" at <https://screenwisepanel.com/cookie-policy> (accessed March 17, 2022)

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“Ipsos Screenwise Panel Privacy Policy” at <https://screenwisepanel.com/ipsos-sow-privacy-policy> (accessed March 14, 2022)

“Key Figures” per Ipsos at <https://www.ipsos.com/en/key-figures> (accessed March 17, 2022)

“Make every conversion count with sitewide tagging” per Google Ads Help at <https://support.google.com/google-ads/answer/9094505?hl=en> (accessed March 16, 2022)

“Microsoft Edge now blocking Third-Party Cookies In Private mode” per Techdows at <https://techdows.com/2020/07/microsoft-edge-blocks-third-party-cookies-in-private-mode.html> (accessed March 21, 2022)

“More intuitive privacy and security controls in Chrome” per Google – The Keyword at <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/> (accessed March 14, 2022)

“Nielsen Computer & Mobile Panel” per <https://computermobilepanel.nielsen.com/ui/US/en/sdp/landing> (accessed March 13, 2022)

“Number of internet users in the United States from 2010 to 2025” per Statista at <https://www.statista.com/statistics/325645/usa-number-of-internet-users/#professional> (accessed April 18, 2022)

“Personalized advertising” per Google Advertising Policies Help at <https://support.google.com/adspolicy/answer/143465?hl=en> (accessed March 13, 2022)

“Reach a larger or new audience with Google Display Network targeting” per Google Ads Resources at https://ads.google.com/intl/en_id/home/resources/reach-larger-new-audiences/ (accessed March 23, 2022)

“Remarketing” per Google Ads Help at <https://support.google.com/google-ads/answer/1752338?hl=en> (accessed March 13, 2022)

“Safari Enables Full-On Third-Party Cookie Blocking by Default” at <https://www.adexchanger.com/online-advertising/safari-enables-full-on-third-party-cookie-blocking-by-default-aka-no-more-workarounds-ever/> (accessed March 15, 2022)

“SavvyConnect Monthly Participation Requirements” per <https://www.surveysavvy.com/savvyconnect/requirements> (accessed March 13, 2022)

“Targeting your ads” per Google Ads Help at <https://support.google.com/google-ads/answer/1704368?hl=en> (accessed March 15, 2022)

“Use pay for conversions in Display campaigns” per Google Ads Help at <https://support.google.com/google-ads/answer/7528254?hl=en> (accessed March 15, 2022)

“What are the details of your reward plan?” per <https://www.joinupvoice.com/faq/rewards-plan> (accessed March 15, 2022)

“What does Nielsen use my information for?” per <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 13, 2022)

“What does the Nielsen Computer & Mobile App/software collect?” per <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 13, 2022)

“What is AdMob” per <https://admob.google.com/home/resources/what-is-admob/> (accessed April 6, 2022)

“What is SavvyConnect?” per <https://www.surveysavvy.com/savvyconnect> (accessed March 14, 2022)

“What is the Nielsen Computer & Mobile panel?” per <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 13, 2022)

“What is UpVoice?” per <https://www.joinupvoice.com/faq> (accessed March 15)

“What rewards can I earn?” per <https://computermobilepanel.nielsen.com/ui/US/en/faqen.html> (accessed March 13, 2022)

“What type of data do you collect about me?” per <https://www.joinupvoice.com/faq> (accessed March 15, 2022)

Protecting the Privacy of Customers of Broadband and Other Telecommunications Services, Federal Communications Commission, December 2, 2016

<https://gs.statcounter.com/browser-market-share> (accessed March 15, 2022)

<https://gs.statcounter.com/browser-market-share/all/united-states-of-america> (accessed January 13, 2022)

<https://gs.statcounter.com/browser-market-share/all/united-states-of-america/#monthly-201606-202201> (accessed April 8, 2022)

<https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022)

<https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022)

<https://gs.statcounter.com/faq> (accessed April 8, 2022)

<https://www.linkedin.com/in/ankur-lahoti-586ab6/> (accessed March 15, 2022)

<https://www.linkedin.com/in/bert-leung-159b5733/> (accessed March 15, 2022)

<https://www.linkedin.com/in/camillewormser/> (accessed March 15, 2022)

<https://www.linkedin.com/in/chetna-bindra-4a51003> (accessed March 15, 2022)

<https://www.linkedin.com/in/jonathan-greenberg-0789687/> (accessed March 15, 2022)

<https://www.linkedin.com/in/joshknoxgoogle/> (accessed March 15, 2022)

<https://www.linkedin.com/in/robbanz/> (accessed March 15, 2022)

<https://www.linkedin.com/in/victor-liu-85016932/> (accessed March 15, 2022)

Case Law:

Am. Master Lease LLC v. Idanta Partners, Ltd., 225 Cal App 4th 1451, 1487 (2014)

Meister v. Mensinger, 230 Cal App 4th 381, 399 (2014)

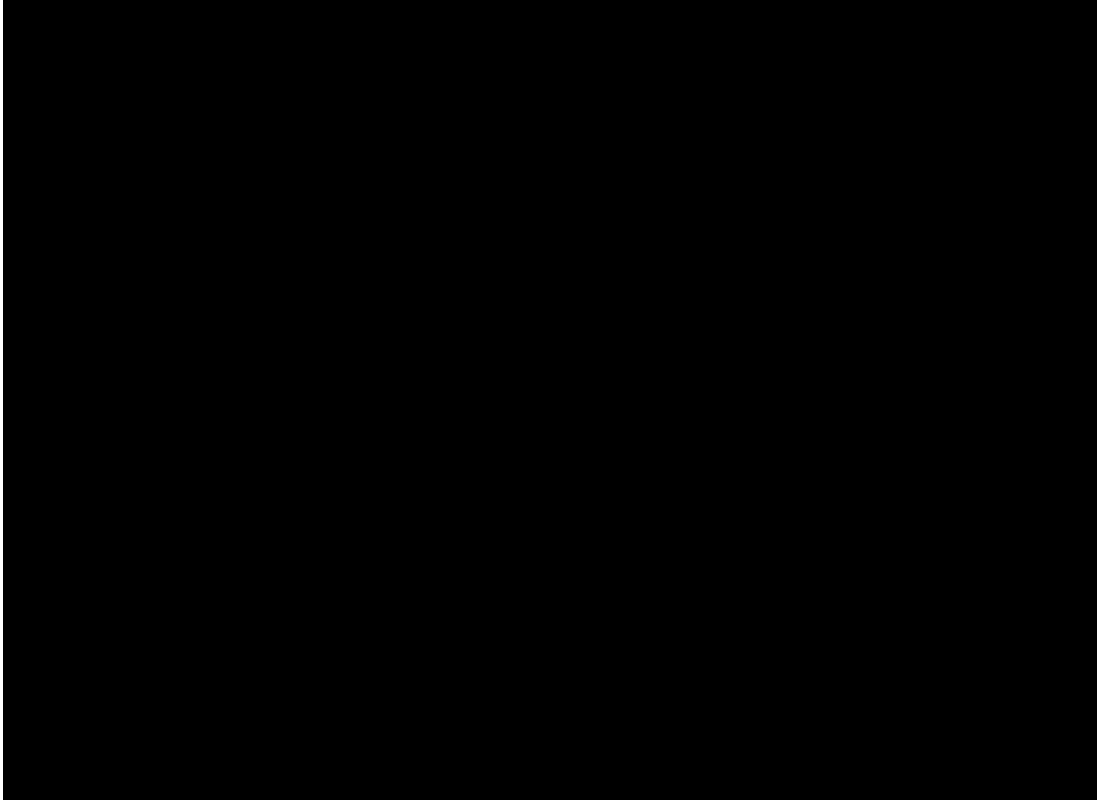
Restatement (Third) of Restitution and Unjust Enrichment § 51 (2011)

Schedules

Brown et al v. Google LLC et al.

EXAMPLE UNJUST ENRICHMENT CALCULATION: JUNE 1, 2016 - DECEMBER 31, 2021

Schedule 1 1



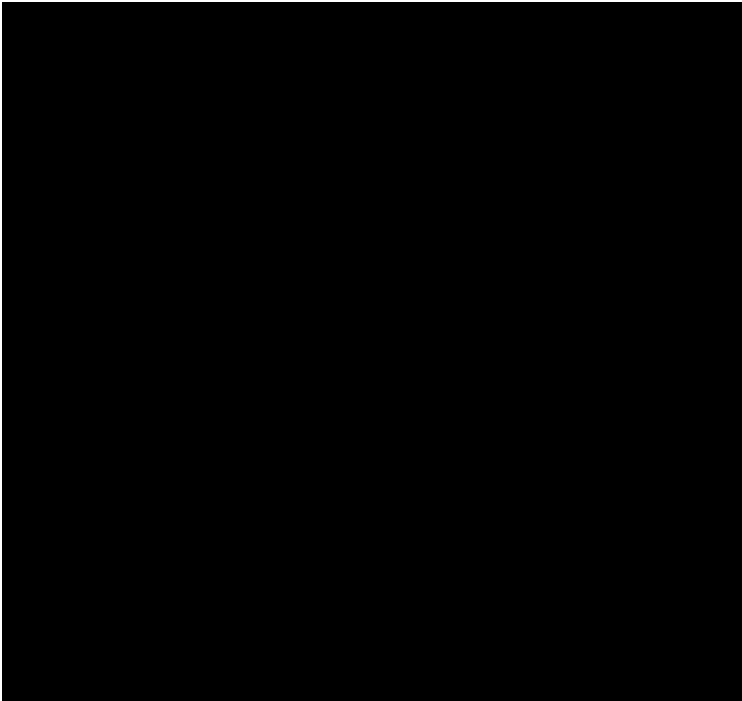
Notes:

- (1) See Report Section 7.5. As discussed throughout my report, the information in this model can be used to guide the determination of Google's Unjust Enrichment under a variety of potential liability scenarios. This is an example of one such calculation.
- (2) Schedule 2 1
- (3) Schedule 5 1
- (4) Schedule 8 1
- (5) Schedule 3 1
- (6) Schedule 6 1
- (7) Schedule 9 1
- (8) Schedule 4 1
- (9) Schedule 7 1
- (10) Schedule 10 1

Brown et al v. Google LLC et al.

EXAMPLE UNJUST ENRICHMENT CALCULATION: PERSONALIZATION AND CONVERSION TRACKING FROM ALL TRAFFIC - JUNE 1, 2016 - DECEMBER 31, 2021

Schedule 1 2

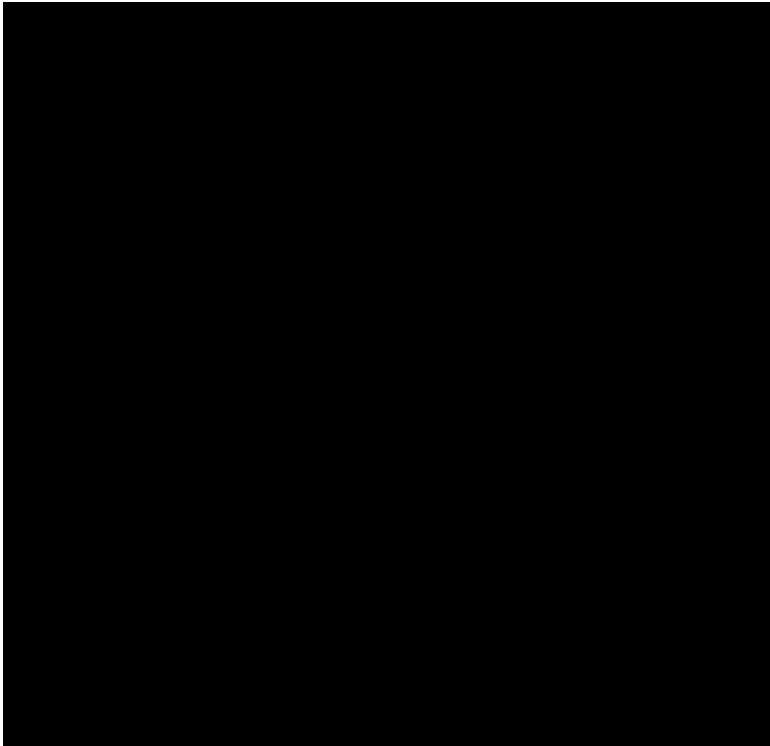


Notes:

- (1) See Report Section 7.5. As discussed throughout my report, the information in this model can be used to guide the determination of Google's Unjust Enrichment under a variety of potential liability scenarios. This is an example of one such calculation.
- (2) Schedule 2 1
- (3) Schedule 5 1
- (4) Schedule 8 1
- (5) Schedule 3 1
- (6) Schedule 6 1
- (7) Schedule 9 1
- (8) Schedule 4 1
- (9) Schedule 7 1
- (10) Schedule 10 1

Brown et al v. Google LLC et al.

EXAMPLE UNJUST ENRICHMENT CALCULATION: PERSONALIZATION AND CONVERSION TRACKING FROM TRAFFIC WITH THIRD-PARTY COOKIES - JUNE 1, 2016 - DECEMBER 31, 2021
Schedule 1 3



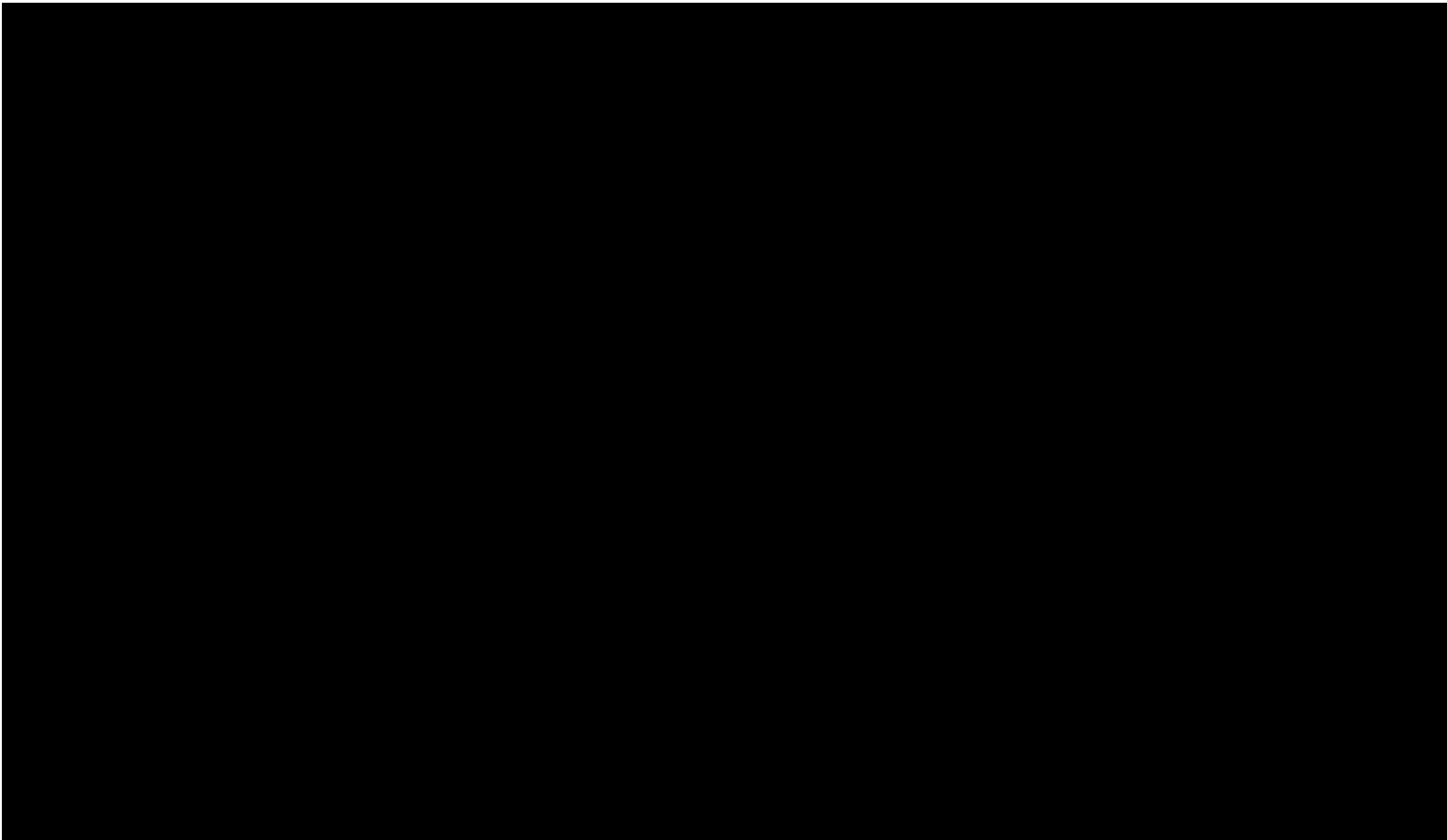
Notes:

- (1) See Report Section 7.5. As discussed throughout my report, the information in this model can be used to guide the determination of Google's Unjust Enrichment under a variety of potential liability scenarios. This is an example of one such calculation.
- (2) Schedule 2 1
- (3) Schedule 5 1
- (4) Schedule 8 1
- (5) Schedule 3 1
- (6) Schedule 6 1
- (7) Schedule 9 1
- (8) Schedule 4 1
- (9) Schedule 7 1
- (10) Schedule 10 1

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 2.1

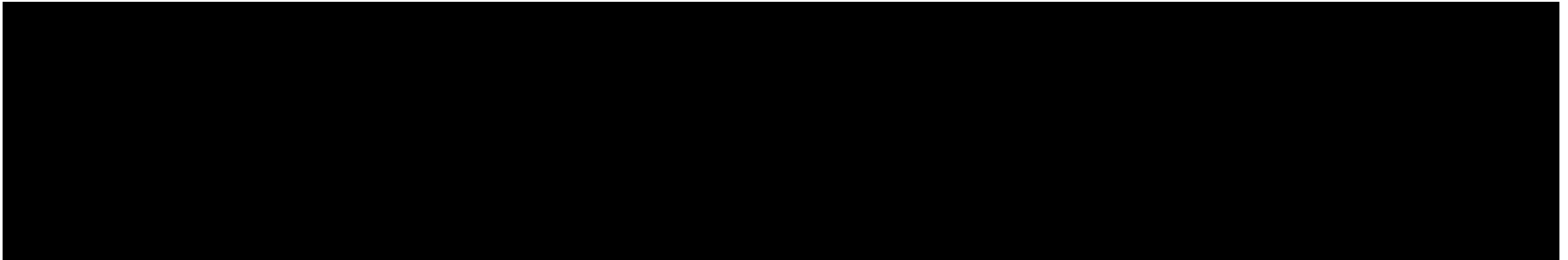


Notes:

- (1) Schedule 2.6.
- (2) Schedule 2.4.
- (3) Schedule 2.3.
- (4) Schedule 2.2.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME
Schedule 2.2



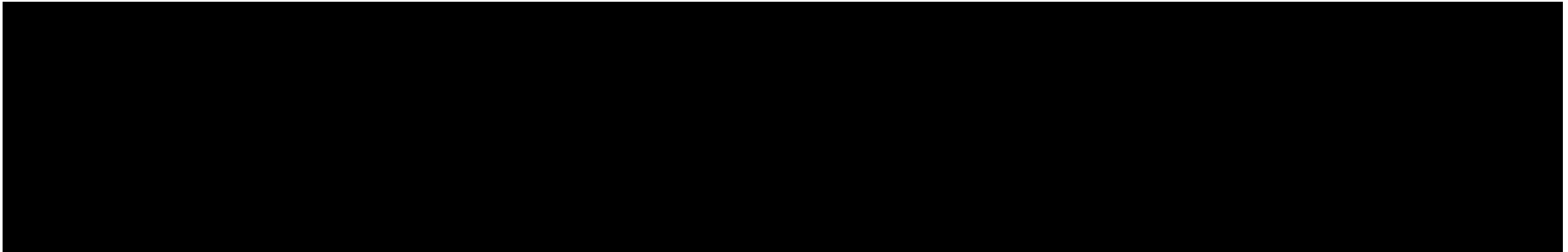
Notes:

- (1) Schedule 2.5
- (2) GOOG-CABR-03635725, Tab: "Display - conversion "
- (3) Schedule 2.11

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 2.3



Notes:

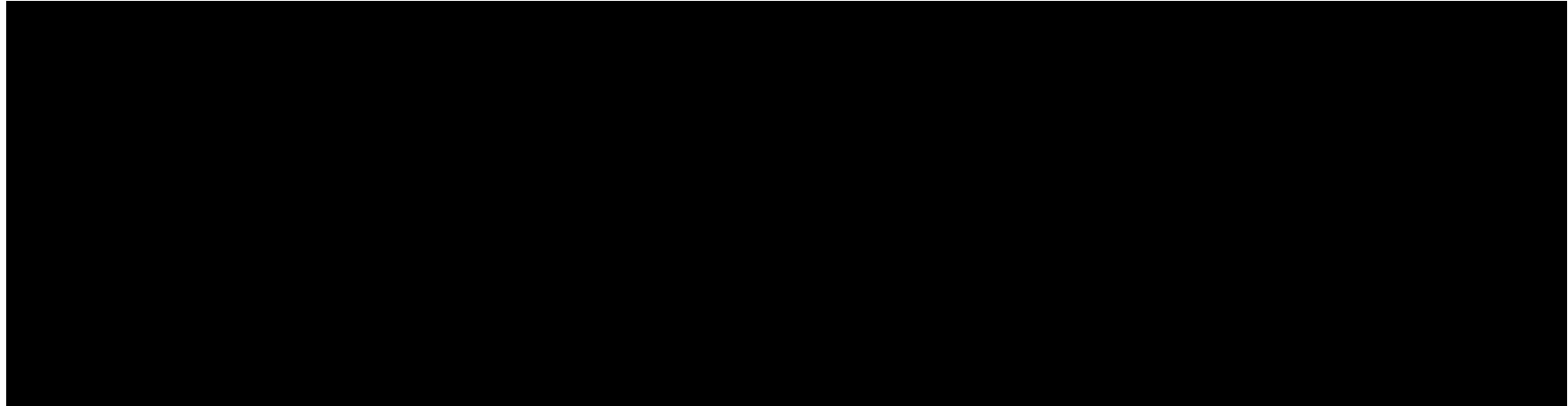
(1) Schedule 2.6

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Google's determination of the autobidding share of Google Display Ads attributable to conversion tracking during 2020 and 2021 is applied as a proxy for 2016-2019

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2.4



Notes:

(1) Schedule 2.5

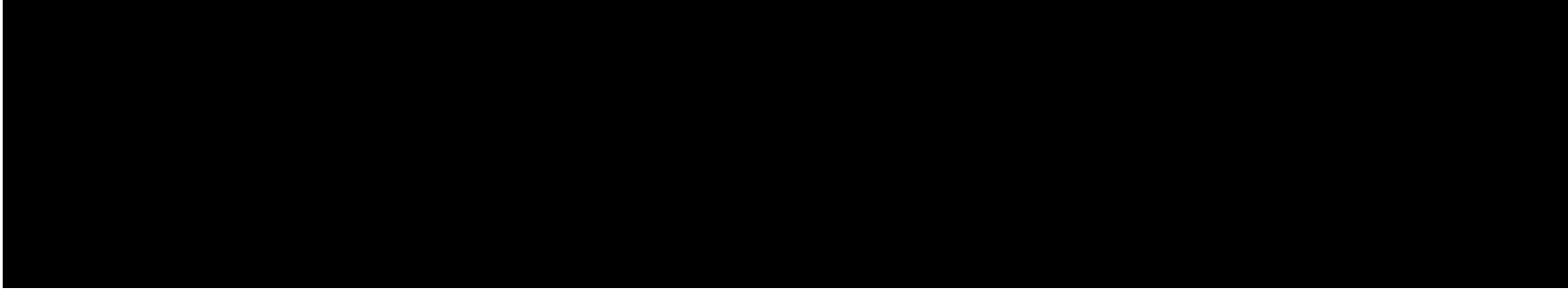
(2) Schedule 2.7

(3) GOOG-CABR-04324934-944 at 939-940 Google's determination of the relative contribution of short term profiles during 2020 and 2021 is applied as a proxy for 2016-2019

(4) GOOG-CABR-04324934-944 at 939-940 Google's determination of the revenue impact due to loss of personalization during 2020 and 2021 is applied as a proxy for 2016-2019

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE - ADJUSTED FOR [REDACTED] IMPLEMENTATION - CHROME
Schedule 2 5



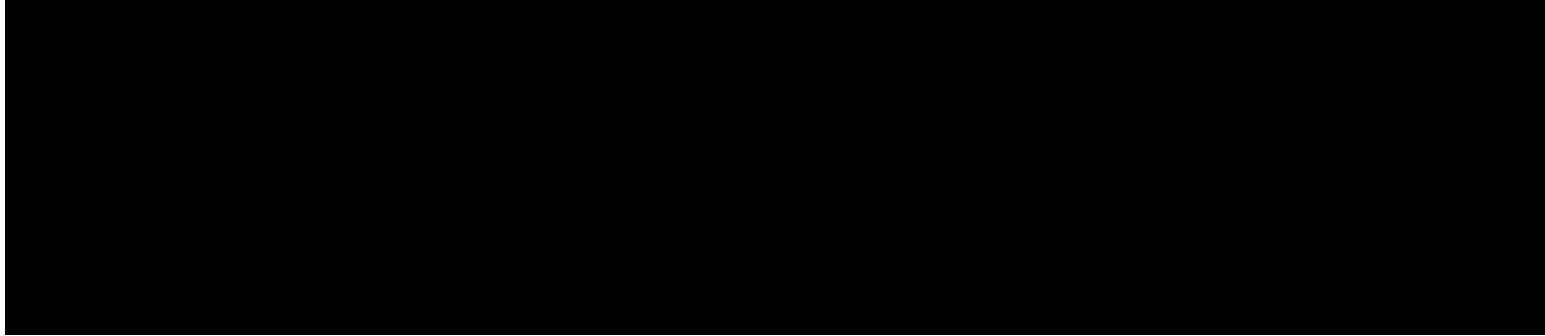
Notes:

- (1) Schedule 2 6
- (2) 2020 per Schedule 2 10

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - CHROME

Schedule 2 6



Notes:

(1) Schedule 12 1

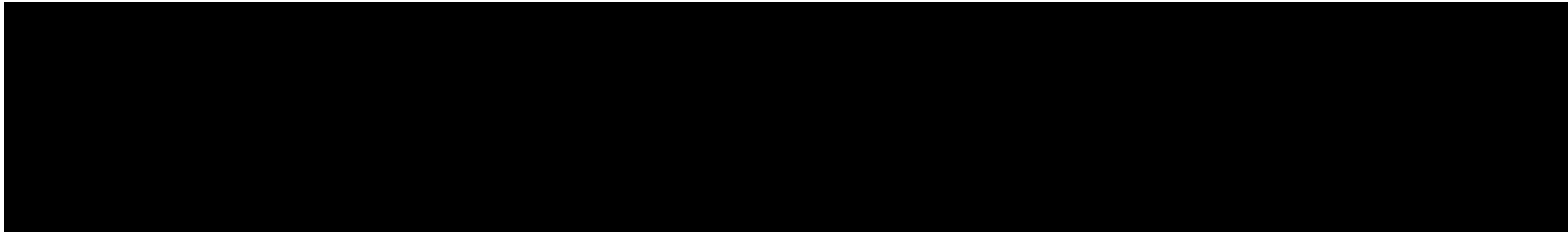
(2) Schedule 14 1

(3) Schedule 11 1

Brown et al v. Google LLC et al.

DISPLAY - SHARE OF REVENUE ATTRIBUTABLE TO TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2 7



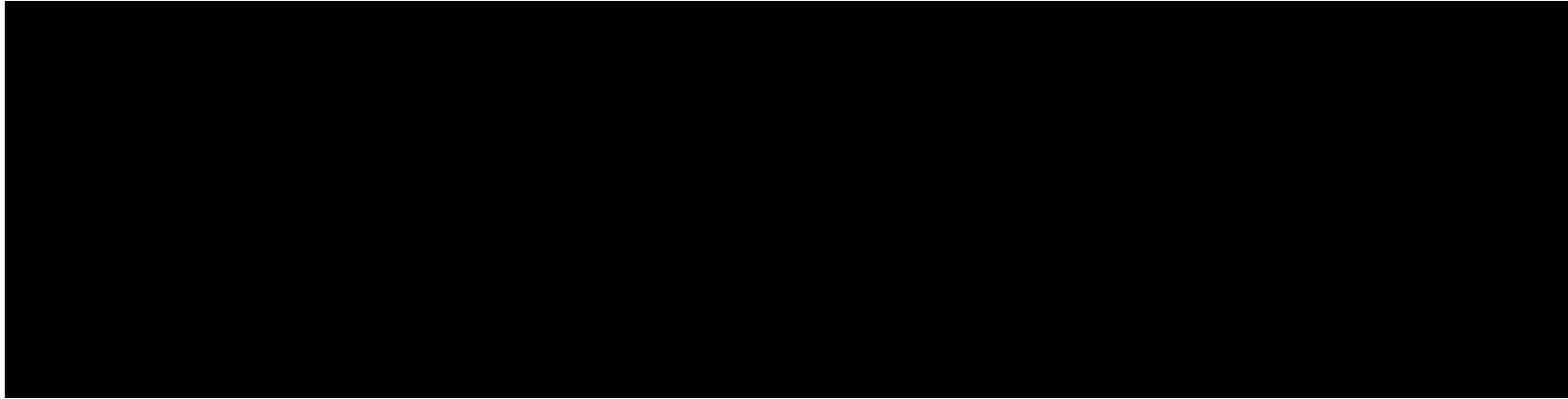
Notes:

(1) GOOG-CABR-04324934-944 at 940 Google's determination of share of traffic with cookies during 2020 and 2021 is applied as a proxy for 2016-2019

(2) Schedule 2 8

Brown et al v. Google LLC et al.

DISPLAY - REVENUE IMPACT OF TRAFFIC WITH AND WITHOUT 3P COOKIES EXPRESSED AS A PERCENT OF REVENUE IMPACT OF ALL TRAFFIC - CHROME
Schedule 2 8



Notes:

(1) Schedule 2 9

(2) Calculated as (Revenue Impact With 3P Cookies) / (Revenue Impact of All Traffic As Compared to Traffic With 3P Cookies)

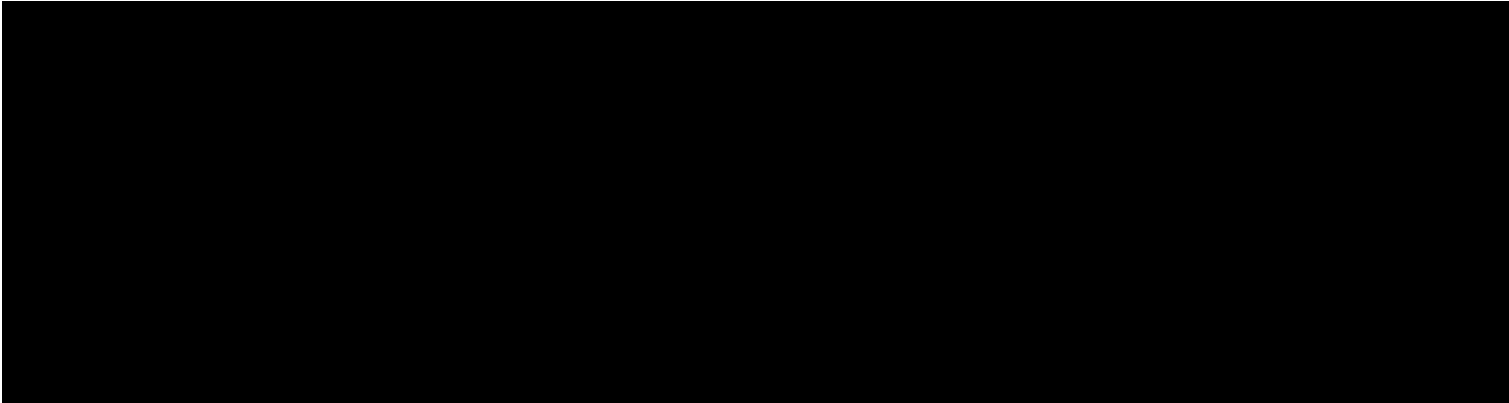
(3) GOOG-CABR-04324934-944 at 940 Google's determination of the revenue impact due to loss of personalization during 2020 and 2021 is applied as a proxy for 2016-2019

(4) Calculated as (Revenue Impact Due to Loss of Personalization) / (Revenue Impact of All Traffic As Compared to Traffic With 3P Cookies)

Brown et al v. Google LLC et al.

DISPLAY - REVENUE IMPACT OF ALL TRAFFIC AS COMPARED TO TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2.9

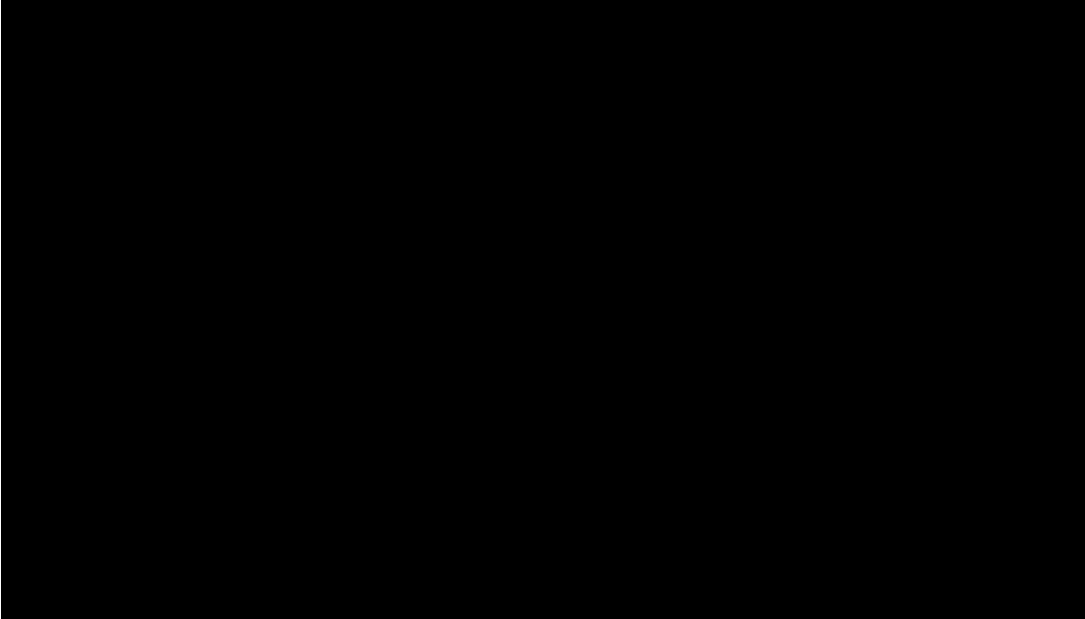


Notes:

- (1) GOOG-CABR-04324934-944 at 940 Google's determination of share of traffic with cookies during 2020 and 2021 is applied as a proxy for 2016-2019
- (2) Calculated as $1 - (\text{Share of Traffic With 3P Cookies})$
- (3) Calculated as $(\text{Implied Revenue from Traffic With 3P Cookies}) + (\text{Implied Revenue from Traffic Without 3P Cookies})$
- (4) GOOG-CABR-04324934-944 at 940 Google's determination of revenue impact due to loss of personalization during 2020 and 2021 is applied as a proxy for 2016-2019

Brown et al v. Google LLC et al.

DISPLAY - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY [REDACTED] IMPLEMENTATION - CHROME
Schedule 2 10

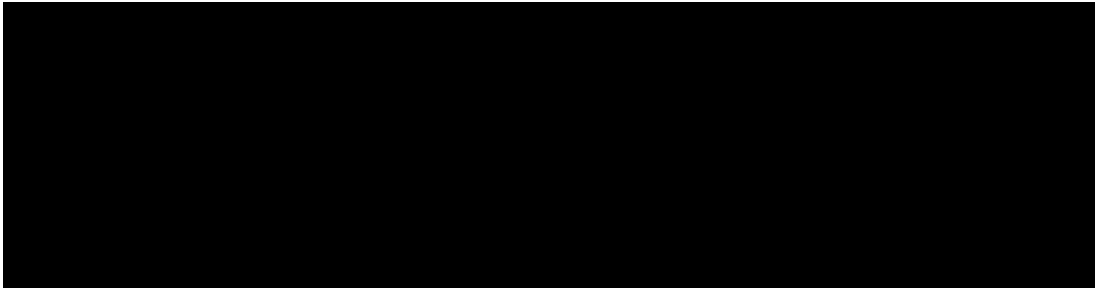


Notes:

- (1) GOOG-CABR-03635725, Tab: "Display - p13n "
- (2) [REDACTED] was introduced in May 2020 See <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/>
Consistent with [REDACTED] Implementation in Ads Impact document See GOOG-CABR-04324934-944 at 934 and GOOG-CABR-03635725, Tab: "Display - p13n "
- (3) Calculated as (Display Forecast Monthly Revenue as a % of Annual Revenue) * [REDACTED] Implementation)
- (4) Calculated as 1 - (Revenue Adjustment Factor for [REDACTED] Implementation)

Brown et al v. Google LLC et al.

DISPLAY - SHARE OF TRAFFIC COVERED ONLY BY 3P COOKIES FOR TRAFFIC WITH 3P COOKIES
Schedule 2 11



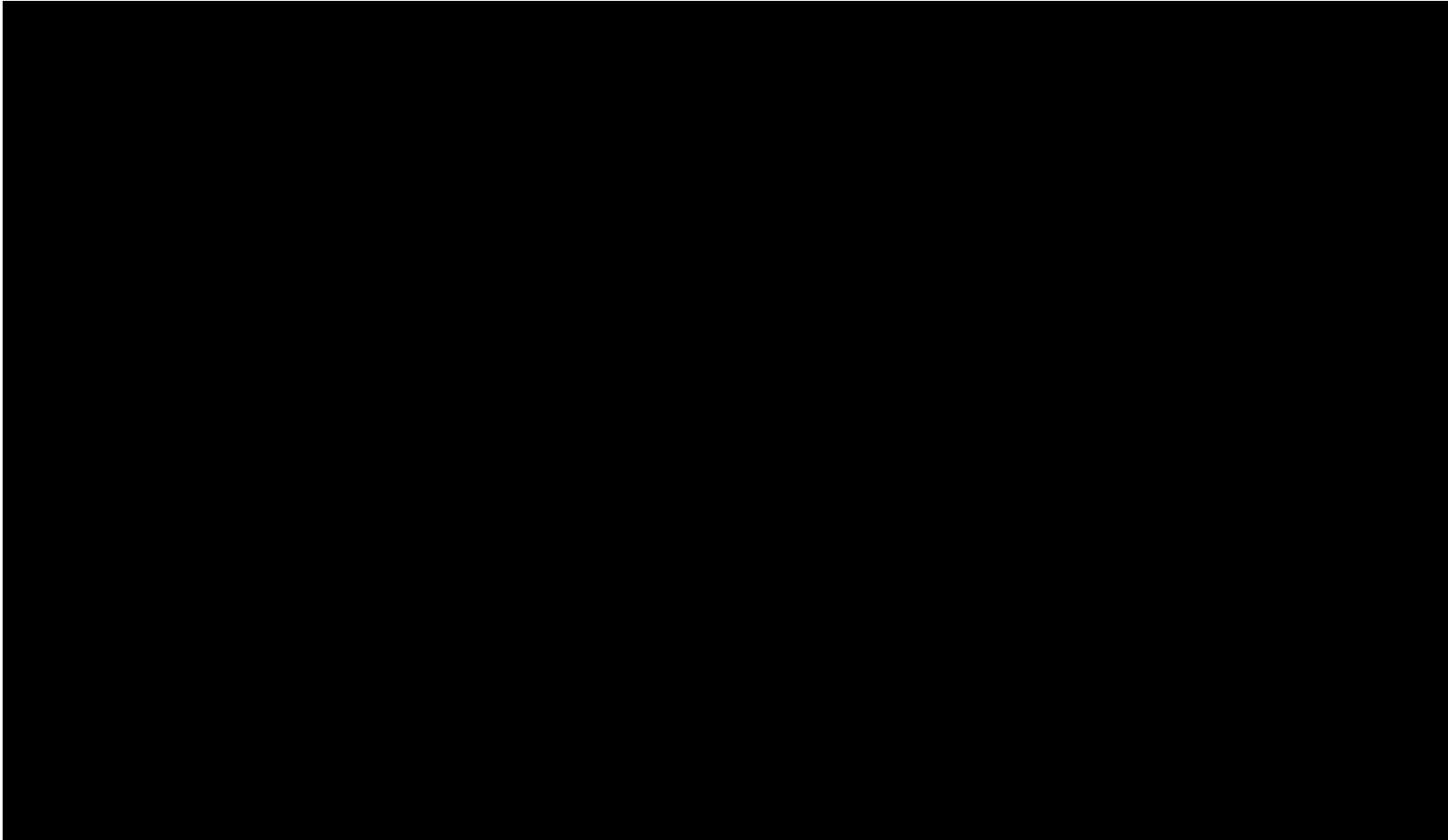
Notes:

- (1) GOOG-CABR-04324934-944 at 940 I understand that the acronym “DV3” refers to Google Display & Video 360, a Google marketing platform
See, for example, “Google Display & Video 360” per End to End Campaign Management at <https://marketingplatform.google.com/about/display-video-360/>
- (2) GOOG-CABR-04324934-944 at 940 Per source document, calculated as (SSCT + Conversion Cookie) / (Sitewide Traffing + SSCT + Conversion Cookie)
- (3) GOOG-CABR-04324934-944 at 940 Per source document, calculated as (Conversions Not Tracked Via Sitewide Tracking) / (Total Conversions)

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 3.1



Notes:

- (1) Schedule 3.6.
- (2) Schedule 3.4.
- (3) Schedule 3.3.
- (4) Schedule 3.2.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE

Schedule 3.2



Notes:

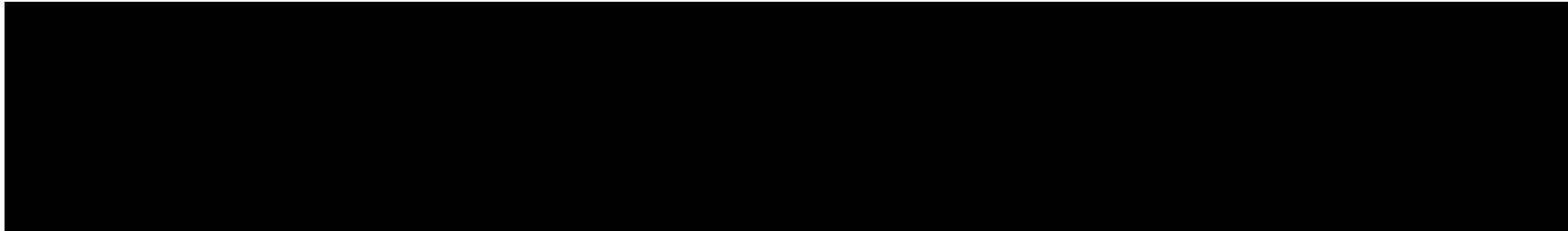
(1) Schedule 3.5.

(2) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.

(3) Schedule 2.11. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE
Schedule 3 3



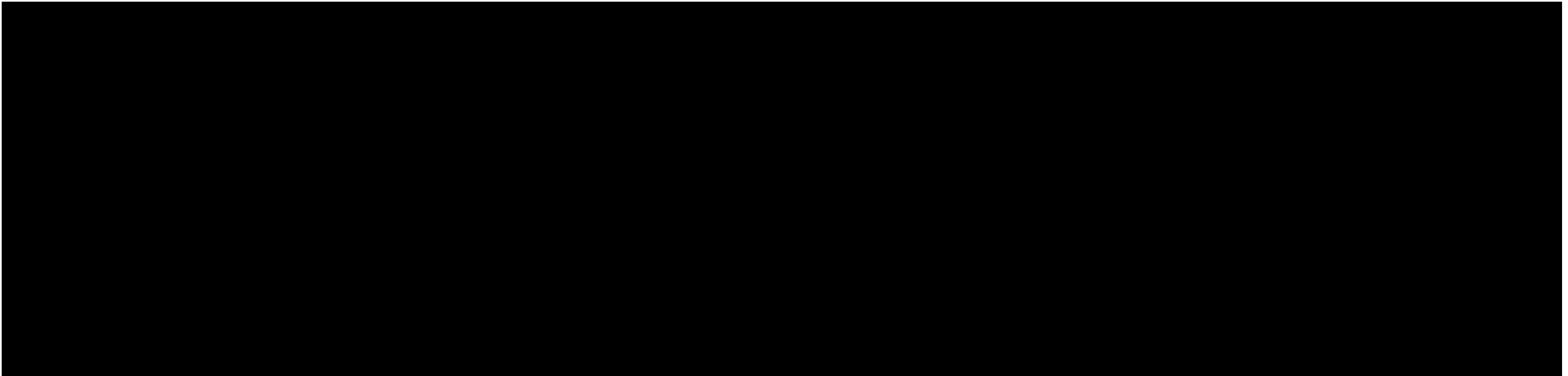
Notes:

(1) Schedule 3 6

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - EDGE / IE
Schedule 3 4



Notes:

- (1) Schedule 3 5
- (2) Schedule 2 7
- (3) GOOG-CABR-04324934-944 at 939-940 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE - ADJUSTSED FOR MTP IMPLEMENTATION - EDGE / IE
Schedule 3 5



Notes:

- (1) Schedule 3 6
- (2) 2020 per Schedule 3 7

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - EDGE / IE

Schedule 3 6



Notes:

(1) Schedule 12 1

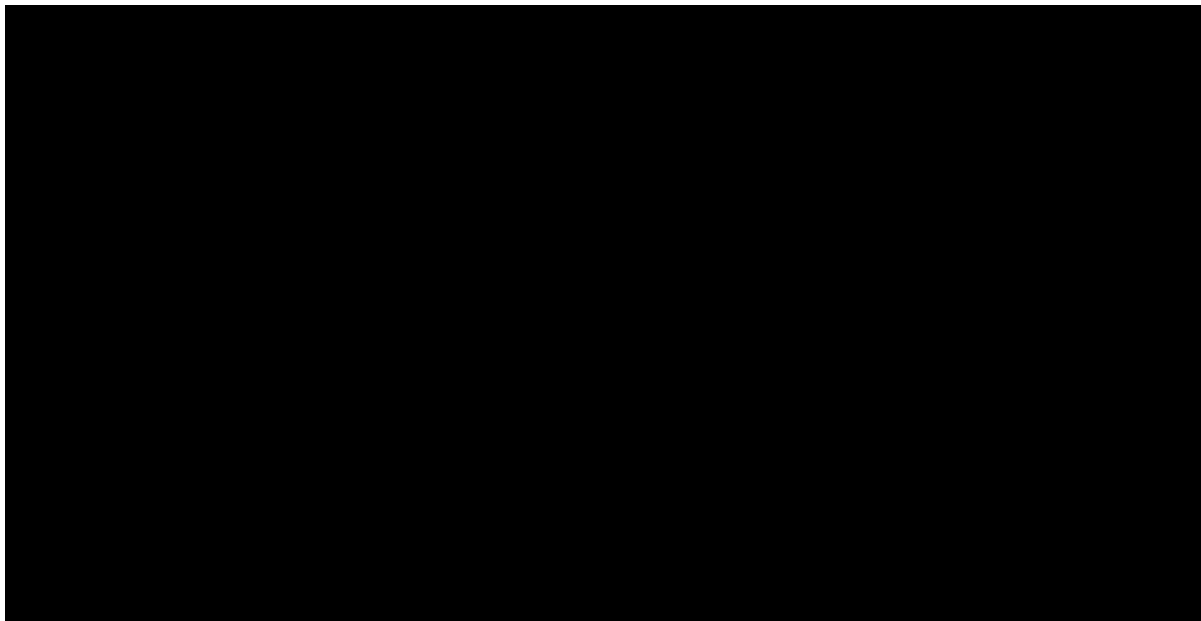
(2) Schedule 14 1 Edge includes Edge, Edge Legacy, Internet Explorer Mobile and Internet Explorer See Schedule 14 13 and Schedule 14 10

(3) Schedule 22 1

Brown et al v. Google LLC et al.

DISPLAY - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY MTP IMPLEMENTATION - EDGE / IE

Schedule 3 7



Notes:

(1) GOOG-CABR-03635725, Tab: "Display - p13n "

(2) I understand that Edge blocked third-party cookies as of January 15, 2020. As Google noted in an internal presentation, "*Edge released a Chromium-based version [of MTP] on Jan. 15, 2020 that offers 3 privacy tiers (basic, balanced, and strict). Balanced is set as the default privacy tier for users and restricts 3P cookies.*" See GOOG-CABR-04820567-602 at 583. See also GOOG-CABR-04588763-820 at 781.

Based on the assumption of complete (i.e., 100%) cookie blocking beginning January 15, 2020, I have assumed 50% implementation for January 2020 and 100% thereafter.

I note that my use of the January 15, 2020 date may overstate the extent of third-party cookie blocking in Edge's private browsing mode. I understand that the default MTP privacy tier, "Balanced," did not block third-party cookie trackers from all websites. As discussed in the presentation produced by Google as GOOG-CABR-04820567-602, the "Balanced" tier "blocks trackers from sites you haven't visited" and "blocks known harmful trackers." See GOOG-CABR-04820567-602 at 583. Additionally, I understand that Edge may not have blocked third-party cookies by default in its private browsing mode until July 2020. See, for example, "Microsoft Edge now blocking Third-Party Cookies In Private mode" per Techdows at <https://techdows.com/2020/07/microsoft-edge-blocks-third-party-cookies-in-private-mode.html> (accessed March 21, 2022).

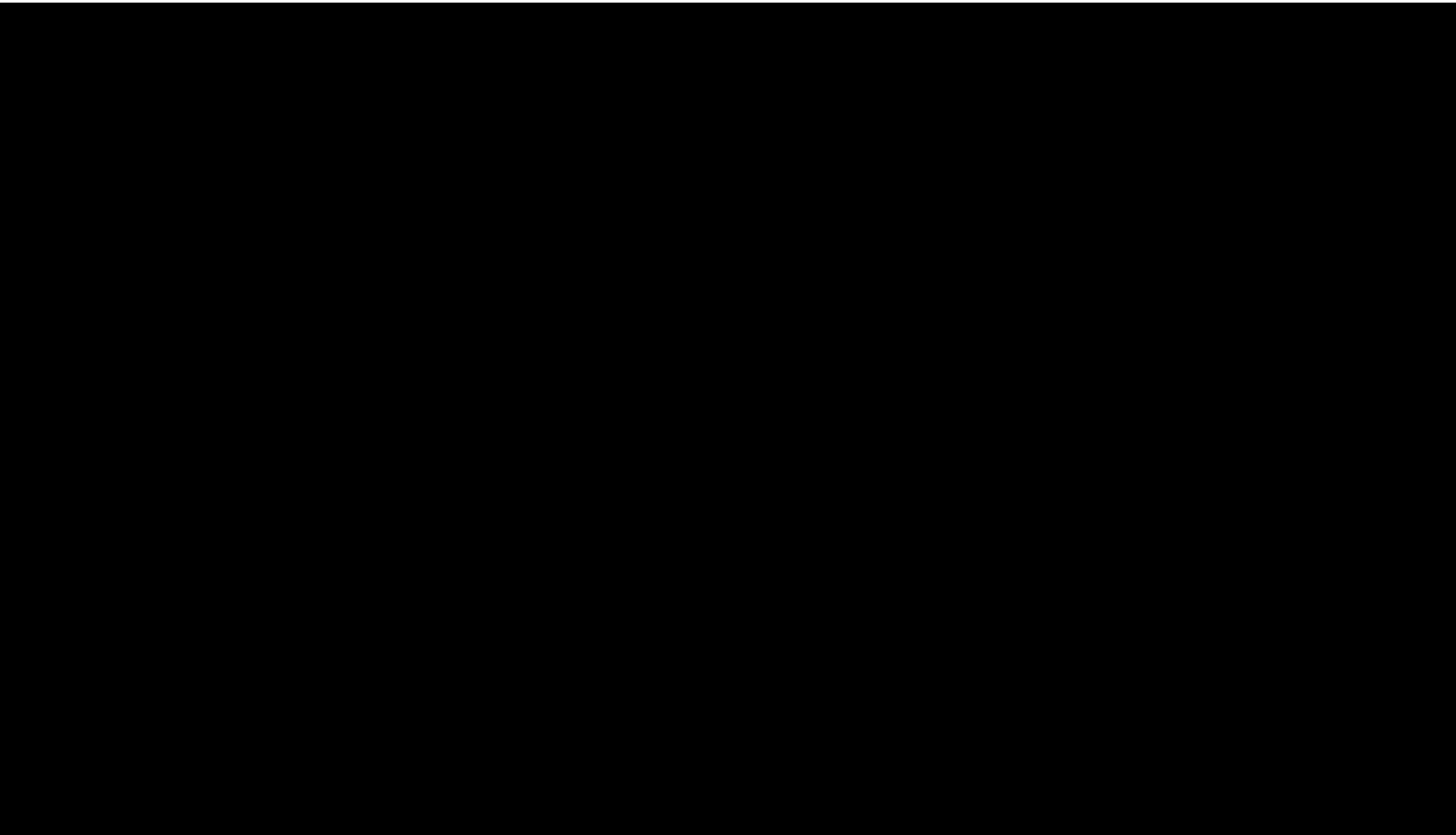
(3) Calculated as (Display Forecast Monthly Revenues as a % of Annual Revenues) * (MTP Implementation)

(4) Calculated as 1 - (Revenue Adjustment Factor for MTP Implementation)

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 4.1



Notes:

- (1) Schedule 4.6.
- (2) Schedule 4.4.
- (3) Schedule 4.3.
- (4) Schedule 4.2.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI

Schedule 4.2



Notes:

(1) Schedule 4.5.

(2) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.

(3) Schedule 2.11. Using Chrome as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI
Schedule 4 3



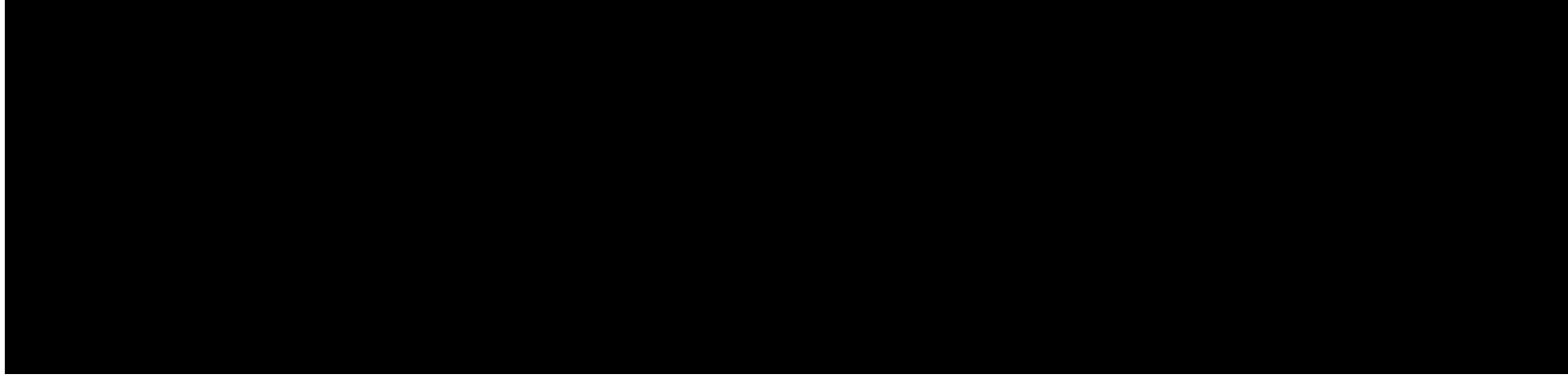
Notes:

(1) Schedule 4 6

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - SAFARI
Schedule 4.4

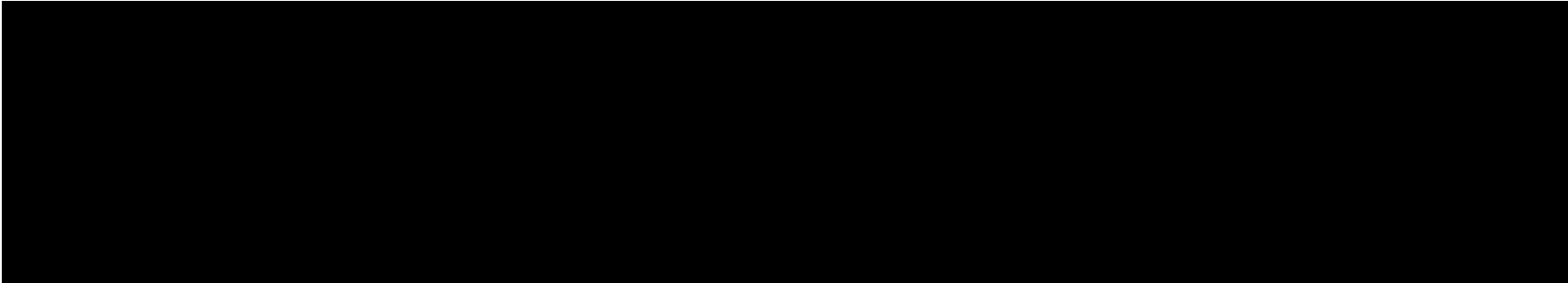


Notes:

- (1) Schedule 4.5.
- (2) Schedule 2.7.
- (3) GOOG-CABR-04324934-944 at 939-940. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE - ADJUSTED FOR ITP IMPLEMENTATION - SAFARI
Schedule 4 5



Notes:

- (1) Schedule 4 6
- (2) Schedule 4 7

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - SAFARI

Schedule 4 6



Notes:

(1) Schedule 12 1

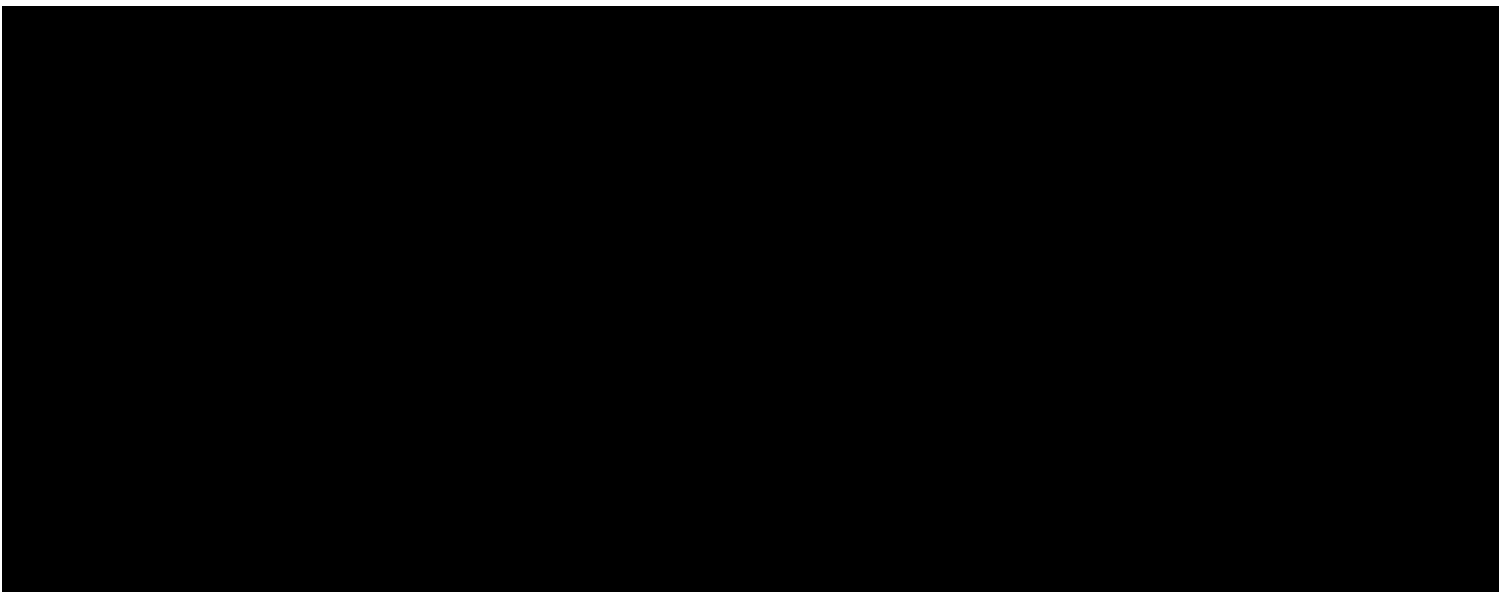
(2) Schedule 14 1

(3) Schedule 22 1

Brown et al v. Google LLC et al.

DISPLAY - ADJUSTMENT FACTORS: SHARE OF REVENUE NOT IMPACTED BY ITP IMPLEMENTATION - SAFARI

Schedule 4.7



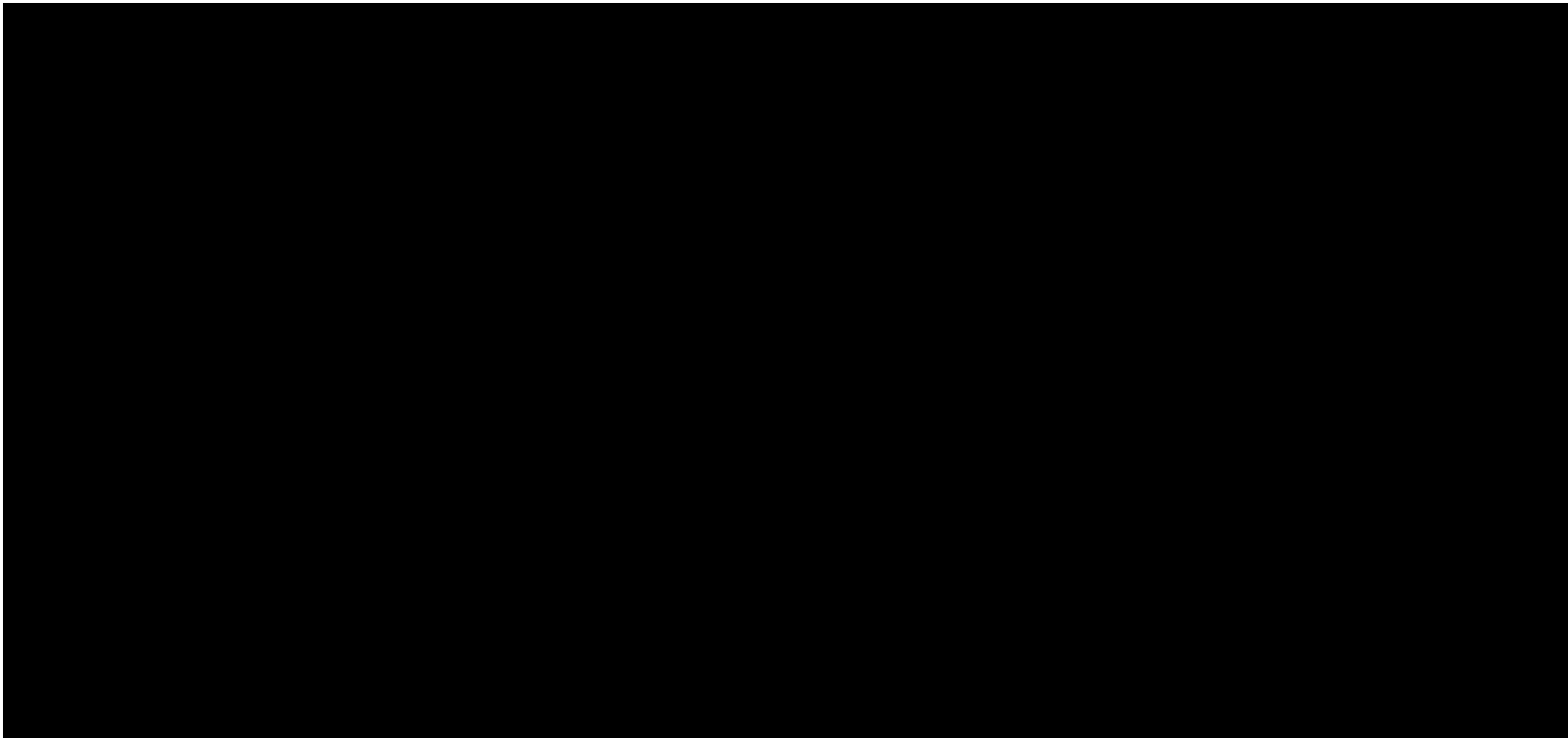
Notes:

- (1) I assumed that 75% of third-party cookies were blocked starting in June 2017 and that this remained constant until April 2020, after which 100% of third-party cookies were blocked. This assumption is consistent with Google documents indicating that Safari blocked “most third-party tracking cookies” with the rollout of ITP 1.0 in June 2017 and Safari’s announcement that third-party cookies were fully blocked as of March 24, 2020. See, GOOG-CABR-04588763 – 820 at 778; GOOG-CABR-00141714 – 721 at 717; and "Safari Enables Full-On Third-Party Cookie Blocking by Default (Aka, No More Workarounds Ever)" per Ad Exchange at <https://www.adexchanger.com/online-advertising/safari-enables-full-on-third-party-cookie-blocking-by-default-aka-no-more-workarounds-ever/> (accessed March 15, 2022).
- (2) Calculated as $1 - (\text{Revenue Adjustment Factor for ITP Implementation})$.

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 5.1



Notes:

- (1) Schedule 5.4.
- (2) Schedule 5.3.
- (3) Schedule 5.2.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 5.2



Notes:

(1) Schedule 5.5

(2) GOOG-CABR-03635725, Tab: "YouTube "

(3) GOOG-CABR-04324934 at 939 I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 5.3



Notes:

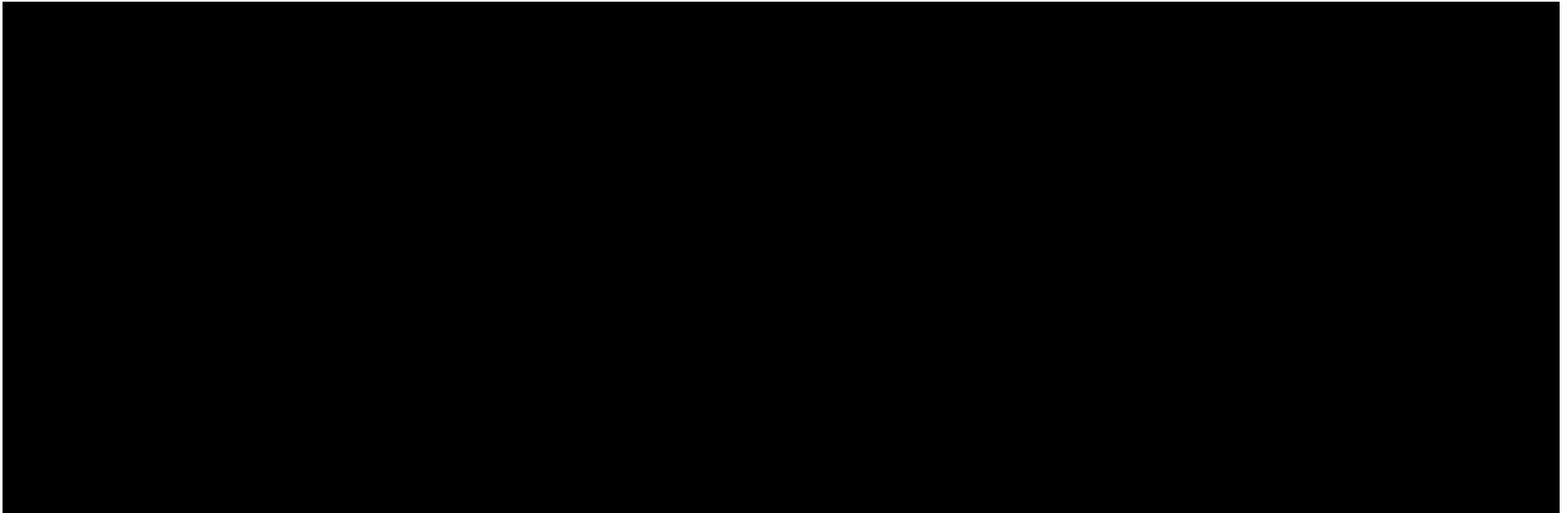
(1) Schedule 5.6

(2) GOOG-CABR-03635725, Tab: "YouTube "

Brown et al v. Google LLC et al.

YOUTUBE - EMBEDDED INCOGNITO U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 5 4



Notes:

(1) Schedule 5 5

(2) Schedule 2 7 I note that the adjustment for the relative revenue contribution of traffic with and without third-party cookies assumes the same apportionment factor (i.e., approximately [REDACTED] applied in analysis of Display Ads revenue

(3) GOOG-CABR-04324934-944 at 938

(4) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Relative Contribution of Short Term Profiles assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

(5) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Revenue Impact Due to Loss of Personalization assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO U.S. YOUTUBE ADS REVENUE - ADJUSTED FOR [REDACTED] IMPLEMENTATION - CHROME
Schedule 5 5

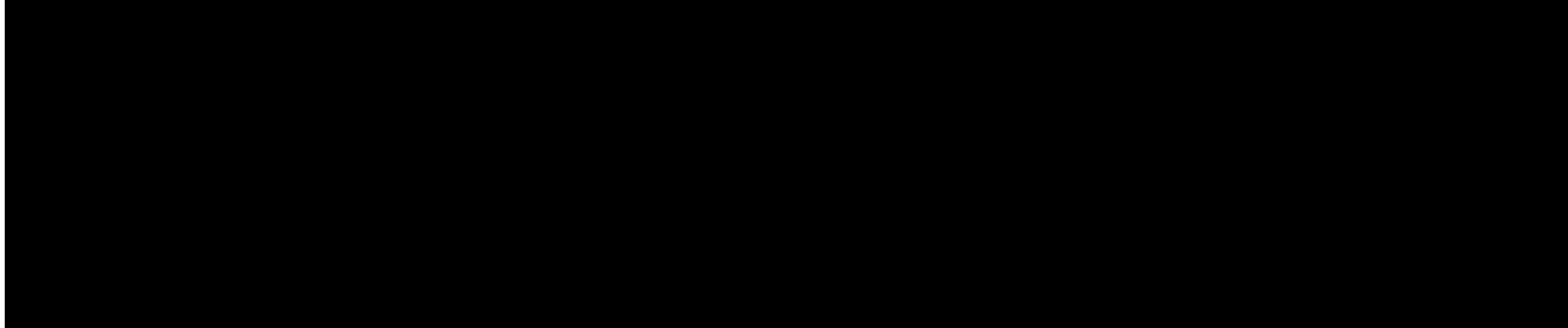
Notes:

- (1) Schedule 5 6
- (2) 2020 per Schedule 5 7

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO U.S. YOUTUBE ADS REVENUE FROM ALL TRAFFIC - CHROME

Schedule 5 6



Notes:

(1) Schedule 12 2

(2) Schedule 14 1

(3) Schedule 11 1

Brown et al v. Google LLC et al.

YOUTUBE - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY [REDACTED] IMPLEMENTATION - CHROME
Schedule 5 7



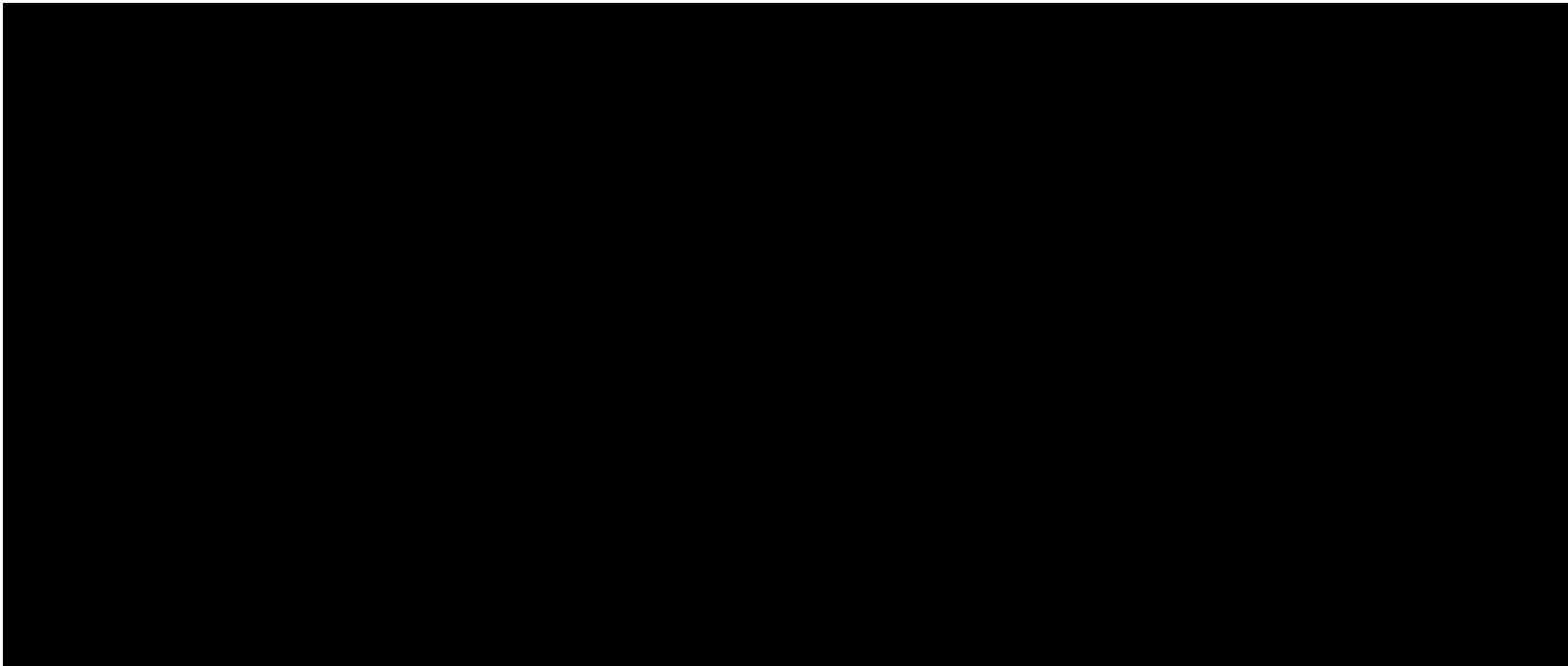
Notes:

- (1) GOOG-CABR-03635725, Tab: "YouTube "
- (2) [REDACTED] was introduced in May 2020 See <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/>
Consistent with [REDACTED] Implementation in Ads Impact document See GOOG-CABR-04324934-944 at 934 and GOOG-CABR-03635725, Tab: "YouTube "
- (3) Calculated as (YouTube Forecast Monthly Revenue as a % of Annual Revenue) * ([REDACTED] Implementation)
- (4) Calculated as 1 - (Revenue Adjustment Factor for [REDACTED] Implementation)

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 6.1



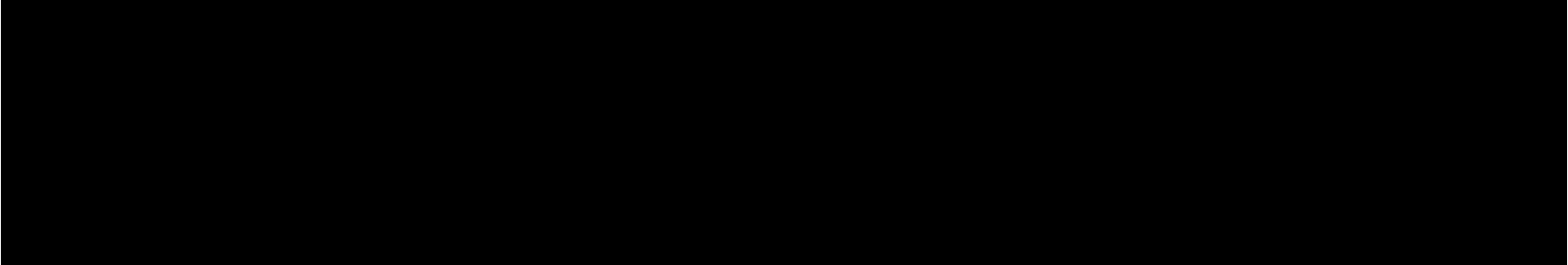
Notes:

- (1) Schedule 6.4.
- (2) Schedule 6.3.
- (3) Schedule 6.2.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE

Schedule 6.2



Notes:

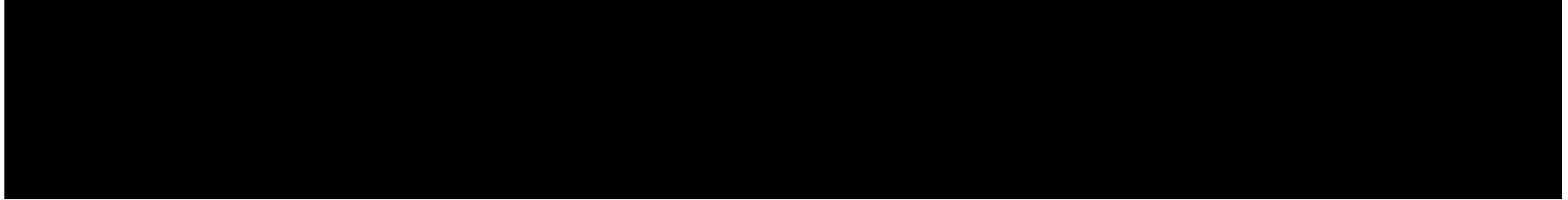
(1) Schedule 6.5.

(2) GOOG-CABR-03635725, Tab "YouTube." Using Chrome data as a proxy.

(3) GOOG-CABR-04324934 at 939. Using Chrome data as a proxy. I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE
Schedule 6 3



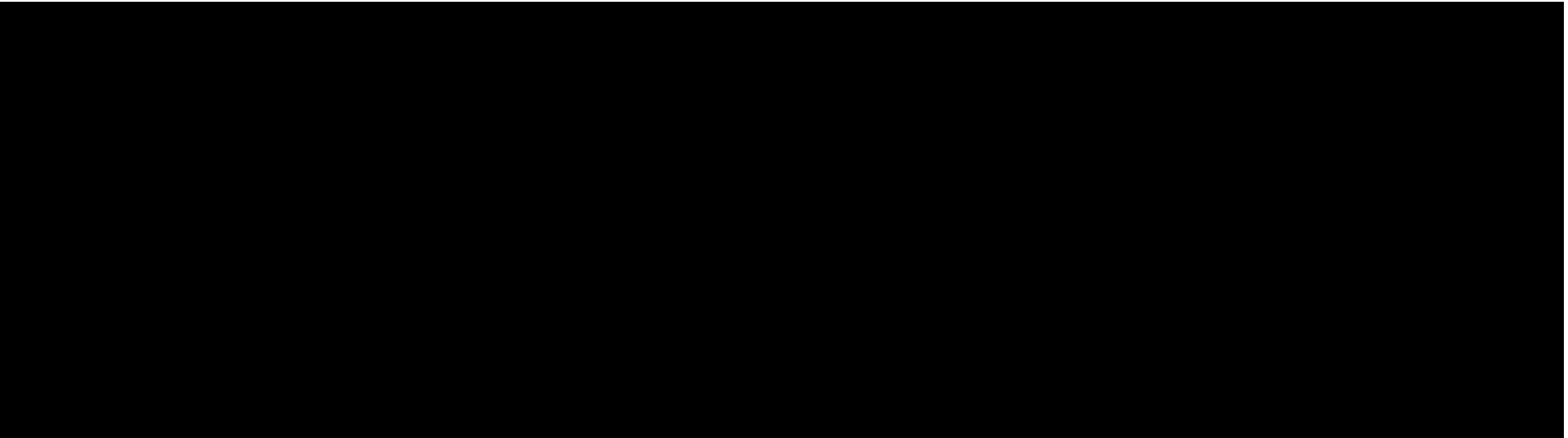
Notes:

(1) Schedule 6 6

(2) GOOG-CABR-03635725, Tab: "YouTube " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

YOUTUBE - EMBEDDED PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - EDGE / IE
Schedule 6.4



Notes:

- (1) Schedule 6.5
- (2) Schedule 2.7 I note that the adjustment for the relative revenue contribution of traffic with and without third-party cookies assumes the same apportionment factor (i.e., approximately [REDACTED] applied in analysis of Display Ads revenue
- (3) Consistent with assumptions represented in Ads Impact document See GOOG-CABR-04324934-944 at 939-940
- (4) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Relative Contribution of Short Term Profiles assumes the same apportionment factor(i.e., [REDACTED] applied in analysis of Display Ads revenue
- (5) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Revenue Impact Due to Loss of Personalization assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE - ADJUSTED FOR MTP IMPLEMENTATION - EDGE / IE
Schedule 6 5



Notes:

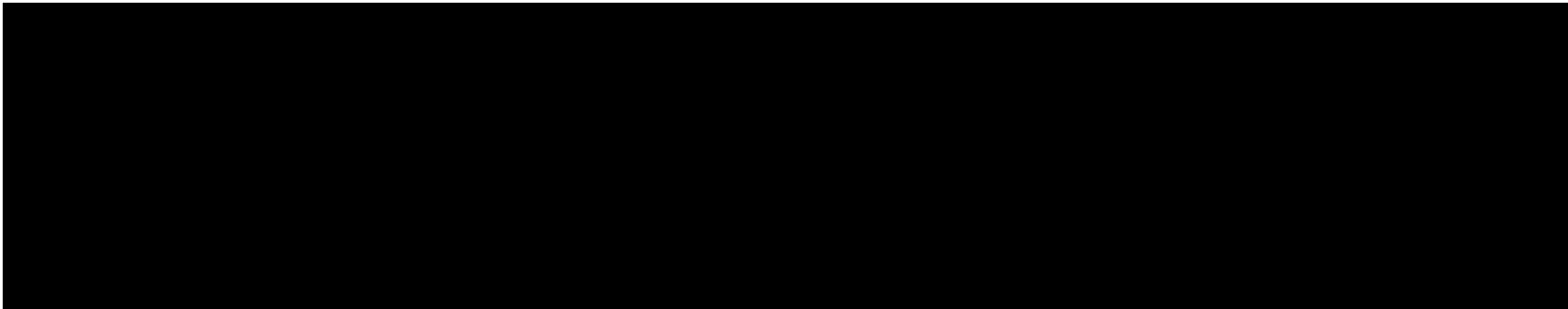
(1) Schedule 6 6

(2) 2020 perSchedule 6 7

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE FROM ALL TRAFFIC - EDGE / IE

Schedule 6 6



Notes:

(1) Schedule 12 2

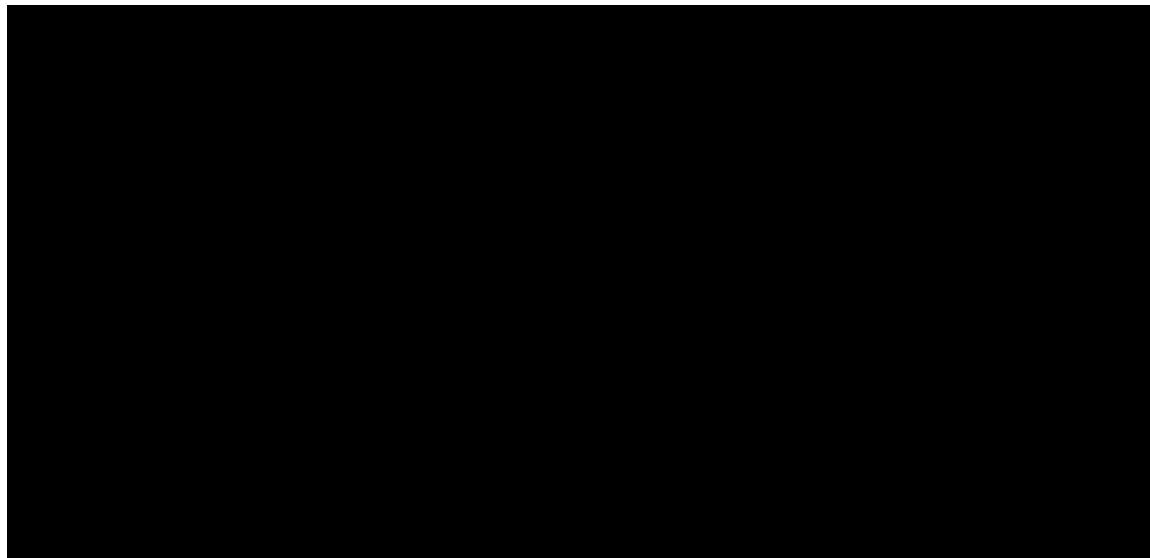
(2) Schedule 14 1 Edge includes Edge, Edge Legacy, Internet Explorer Mobile, and Internet Explorer See Schedule 14 13 and Schedule 14 10

(3) Schedule 22 1

Brown et al v. Google LLC et al.

YOUTUBE - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY MTP IMPLEMENTATION - EDGE / IE

Schedule 6 7



Notes:

(1) GOOG-CABR-03635725, Tab: "YouTube "

(2) I understand that Edge blocked third-party cookies as of January 15, 2020. As Google noted in an internal presentation, "*Edge released a Chromium-based version [of MTP] on Jan. 15, 2020 that offers 3 privacy tiers (basic, balanced, and strict). Balanced is set as the default privacy tier for users and restricts 3P cookies.*" See GOOG-CABR-04820567-602 at 583. See also GOOG-CABR-04588763-820 at 781.

Based on the assumption of complete (i.e., 100%) cookie blocking beginning January 15, 2020, I have assumed 50% implementation for January 2020 and 100% thereafter.

I note that my use of the January 15, 2020 date may overstate the extent of third-party cookie blocking in Edge's private browsing mode. I understand that the default MTP privacy tier,

"Balanced," did not block third-party cookie trackers from all websites. As discussed in the presentation produced by Google as GOOG-CABR-04820567-602, the "Balanced" tier "blocks trackers

from sites you haven't visited" and "blocks known harmful trackers." See GOOG-CABR-04820567-602 at 583. Additionally, I understand that Edge may not have blocked third-party cookies by default in its private browsing mode until July 2020. See, for example, "Microsoft Edge now blocking Third-Party Cookies In Private mode" per Techdows at [https://techdows.com/2020/07/microsoft-edge-](https://techdows.com/2020/07/microsoft-edge-blocks-third-party-cookies-in-private-mode.html)

[blocks-third-party-cookies-in-private-mode.html](https://techdows.com/2020/07/microsoft-edge-blocks-third-party-cookies-in-private-mode.html) (accessed March 21, 2022).

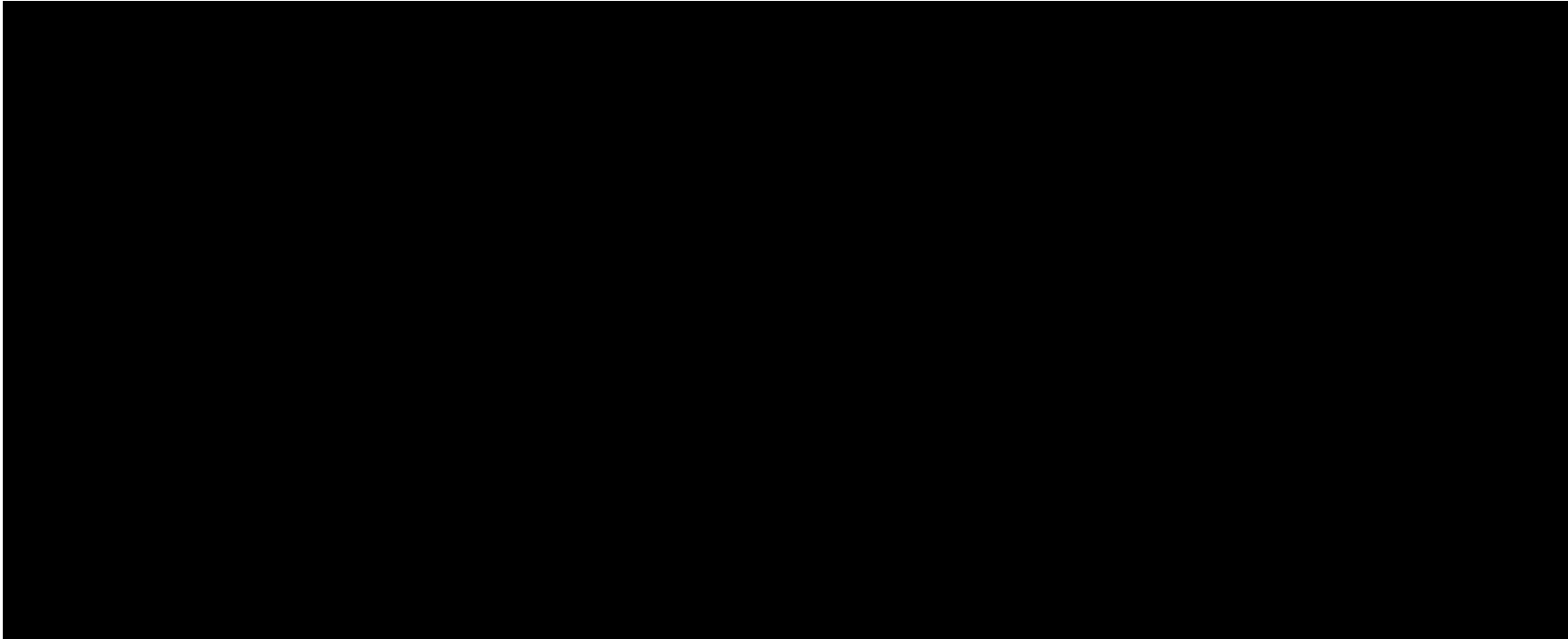
(3) Calculated as (Display Forecast Monthly Revenues as a % of Annual Revenues) * (MTP Implementation)

(4) Calculated as 1 - (Revenue Adjustment Factor for MTP Implementation)

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 7.1



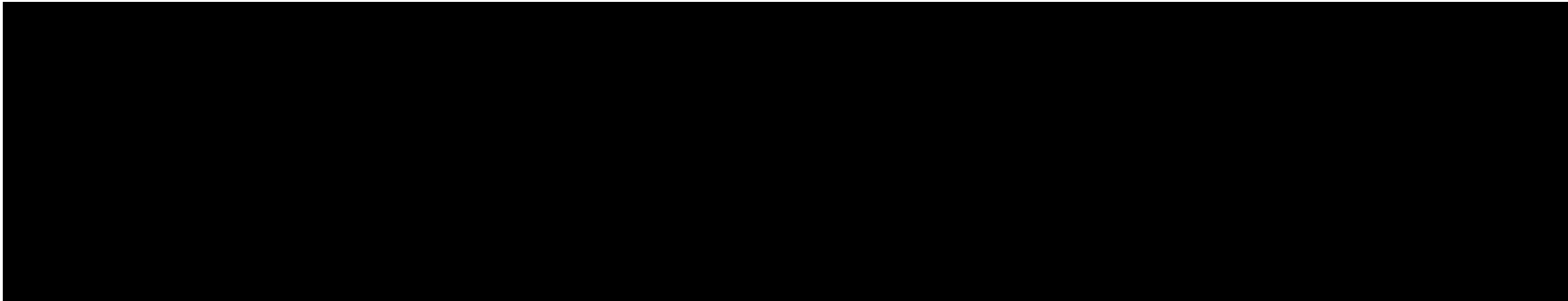
Notes:

- (1) Schedule 7.4.
- (2) Schedule 7.3.
- (3) Schedule 7.2.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI

Schedule 7.2



Notes:

(1) Schedule 7.3.

(2) GOOG-CABR-03635725, Tab "YouTube." Using Chrome data as a proxy.

(3) GOOG-CABR-04324934 at 939. Using Chrome data as a proxy. I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI
Schedule 7.3



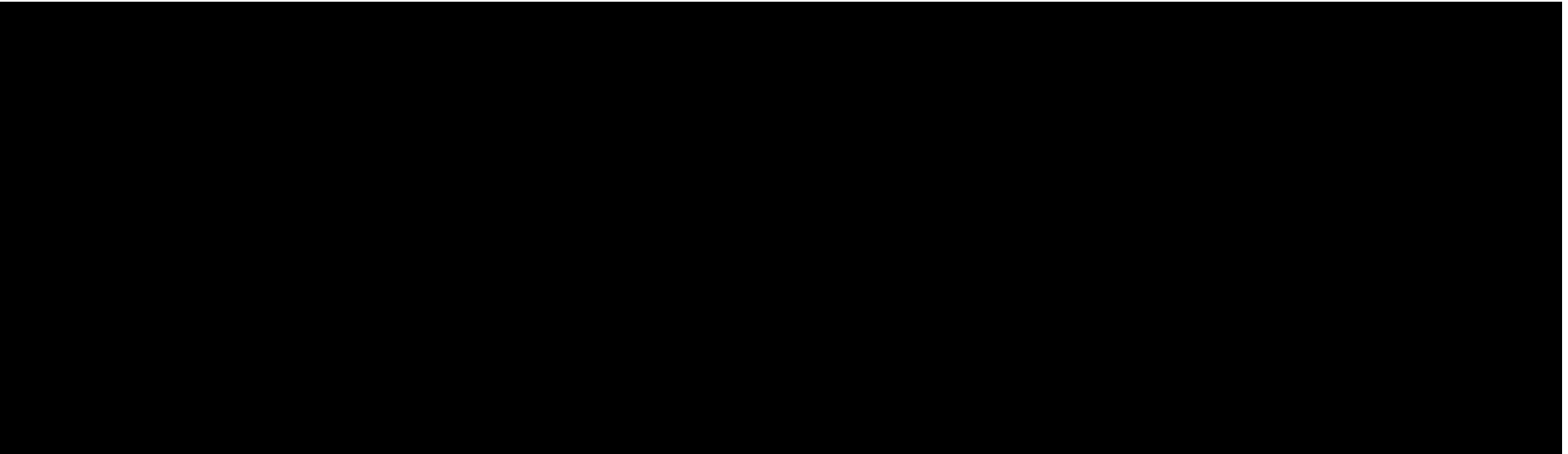
Notes:

(1) Schedule 7.6

(2) GOOG-CABR-03635725, Tab: "YouTube " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

YOUTUBE - EMBEDDED PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - SAFARI
Schedule 7.4



Notes:

- (1) Schedule 7.5
- (2) Schedule 2.7 I note that the adjustment for the relative revenue contribution of traffic with and without third-party cookies assumes the same apportionment factor (i.e., approximately [REDACTED] applied in analysis of Display Ads revenue
- (3) Consistent with assumptions represented in Ads Impact document See GOOG-CABR-04324934-944 at 938-939
- (4) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Relative Contribution of Short Term Profiles assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue
- (5) GOOG-CABR-04324934-944 at 939-940 I note that the adjustment for Revenue Impact Due to Loss of Personalization assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE - ADJUSTED FOR ITP IMPLEMENTATION - SAFARI
Schedule 7 5

Notes:

- (1) Schedule 7 6
- (2) Schedule 7 7

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE FROM ALL TRAFFIC - SAFARI

Schedule 7 6



Notes:

(1) Schedule 12 2

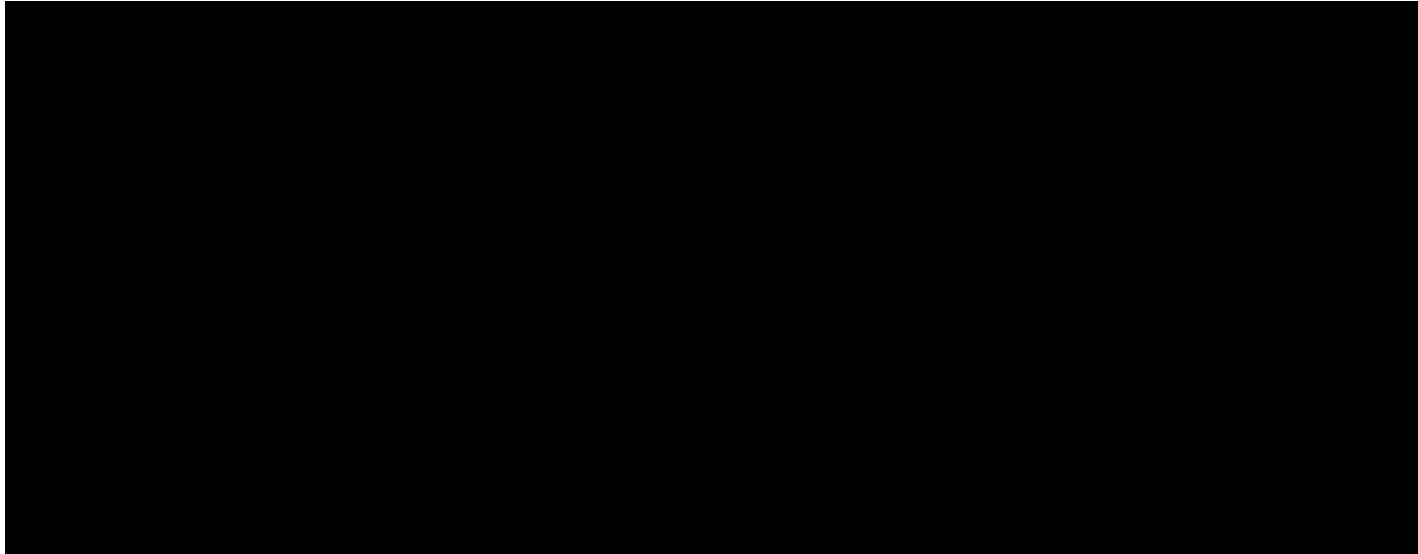
(2) Schedule 14 1

(3) Schedule 22 1

Brown et al v. Google LLC et al.

YOUTUBE - ADJUSTMENT FACTORS: SHARE OF REVENUE NOT IMPACTED BY ITP IMPLEMENTATION - SAFARI

Schedule 7 7



Notes:

- (1) I assumed that 75% of third-party cookies were blocked starting in June 2017 and that this remained constant until April 2020, after which 100% of third-party cookies were blocked. This assumption is consistent with Google documents indicating that Safari blocked “most third-party tracking cookies” with the rollout of ITP 1.0 in June 2017 and Safari’s announcement that third-party cookies were fully blocked as of March 24, 2020. See, GOOG-CABR-04588763 – 820 at 778; GOOG-CABR-00141714 – 721 at 717; and “Safari Enables Full-On Third-Party Cookie Blocking by Default (Aka, No More Workarounds Ever)” per Ad Exchange at <https://www.adexchanger.com/online-advertising/safari-enables-full-on-third-party-cookie-blocking-by-default-aka-no-more-workarounds-ever/> (accessed March 15, 2022).
- (2) Calculated as $1 - (\text{Revenue Adjustment Factor for ITP Implementation})$

Brown et al v. Google LLC et al.

SEARCH - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 8.1



Notes:

- (1) I understand that Search Ads personalization does not rely on third-party cookies. See GOOG-CABR-04324934-944 at 937.
- (2) Schedule 8.3.
- (3) Schedule 8.2.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.4

Brown et al v. Google LLC et al.

SEARCH - INCOGNITO U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 8 2



Notes:

(1) Schedule 8 4

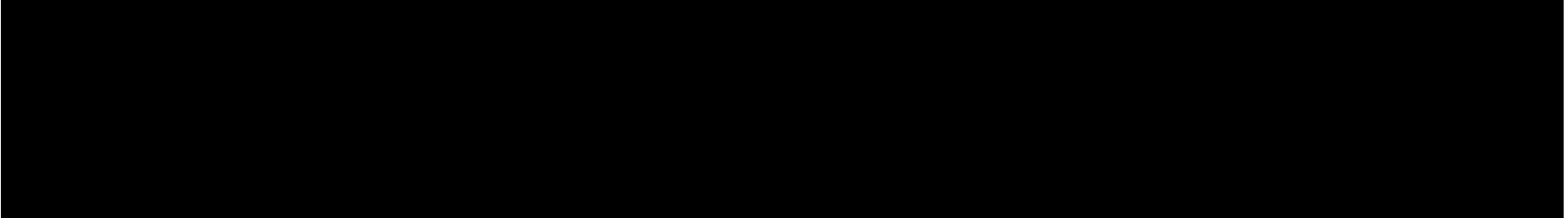
(2) Schedule 8 7

(3) GOOG-CABR-04324934-944 at 937

Brown et al v. Google LLC et al.

SEARCH - INCOGNITO U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 8 3



Notes:

(1) Schedule 8 5

(2) Schedule 8 7

Brown et al v. Google LLC et al.

SEARCH - INCOGNITO U.S. SEARCH ADS REVENUE - ADJUSTED FOR [REDACTED] IMPLEMENTATION - CHROME
Schedule 8 4



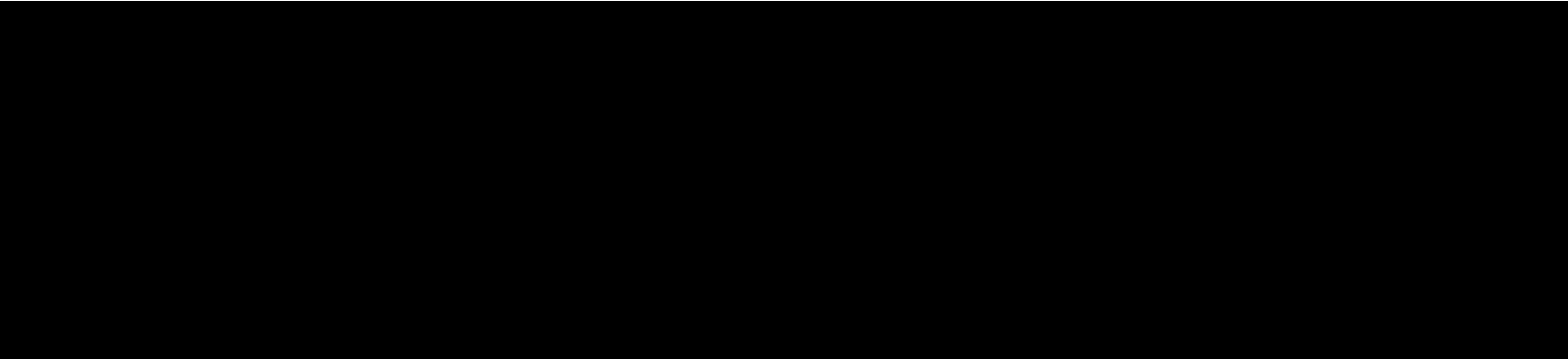
Notes:

- (1) Schedule 8 5
- (2) 2020 per Schedule 8 6

Brown et al v. Google LLC et al.

SEARCH - INCOGNITO U.S. SEARCH ADS REVENUE FROM ALL TRAFFIC - CHROME

Schedule 8 5



Notes:

(1) Schedule 12 3

(2) Schedule 14 1

(3) Schedule 11 1

Brown et al v. Google LLC et al.

SEARCH - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY [REDACTED] IMPLEMENTATION - CHROME
Schedule 8 6



Notes:

(1) GOOG-CABR-03635725, Tab: "Search "

(2) [REDACTED] was introduced in May 2020 See <https://blog.google/products/chrome/more-intuitive-privacy-and-security-controls-chrome/> See also, GOOG-CABR-04324934 - 944 at 934

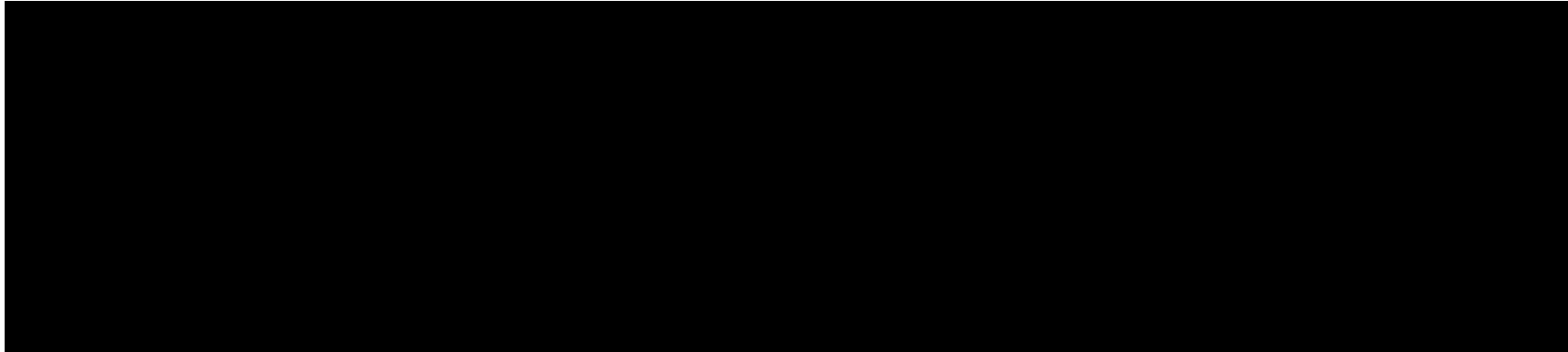
(3) Calculated as (Search Forecast Monthly Revenue as a % of Annual Revenue) * ([REDACTED] Implementation)

(4) Calculated as 1 - (Revenue Adjustment Factor for [REDACTED] Implementation)

Brown et al v. Google LLC et al.

SEARCH - SHARE OF GOOGLE U.S. SEARCH ADS REVENUE DRIVEN BY CONVERSION TRACKING

Schedule 8 7

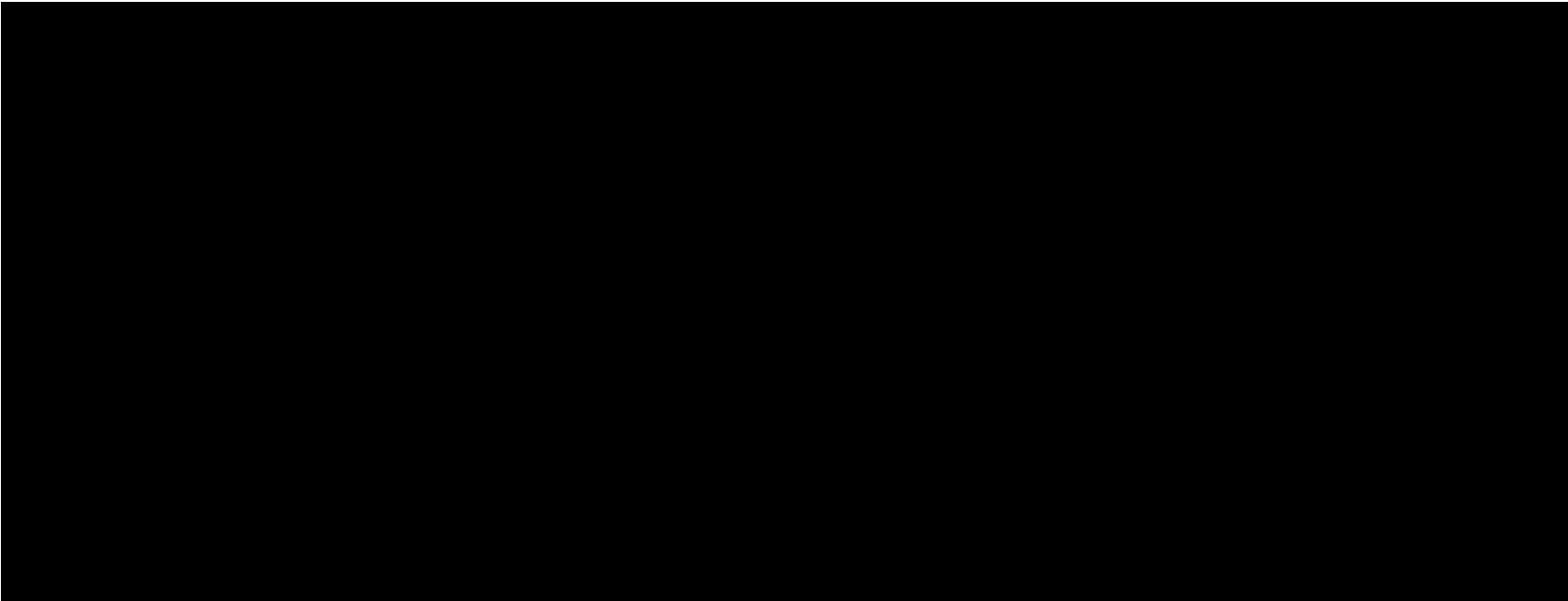


Note:

GOOG-CABR-04324934-944 at 938 and 941. See also, GOOG-CABR-03635725 at tab "Search." Ads Impact document indicates [REDACTED] " and that "conversion-based auto-bidding accounts for [REDACTED] at the beginning of 2020." I have therefore used [REDACTED] for 2016-2019 and [REDACTED] for 2020 and 2021. Ads Impact document represents that the remaining [REDACTED] of Search Ads revenue is attributable to non-conversion-based autobidding.

Brown et al v. Google LLC et al.

SEARCH - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE
Schedule 9 1

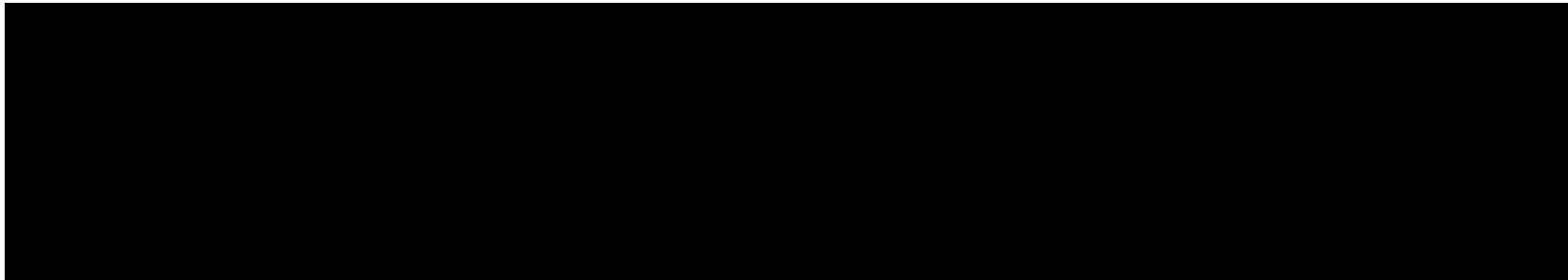


Notes:

- (1) I understand that Search Ads personalization does not rely on third-party cookies. See GOOG-CABR-04324934-944 at 937.
- (2) Schedule 9 3
- (3) Schedule 9 2
- (4) Schedule 21 1
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.4

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE
Schedule 9.2

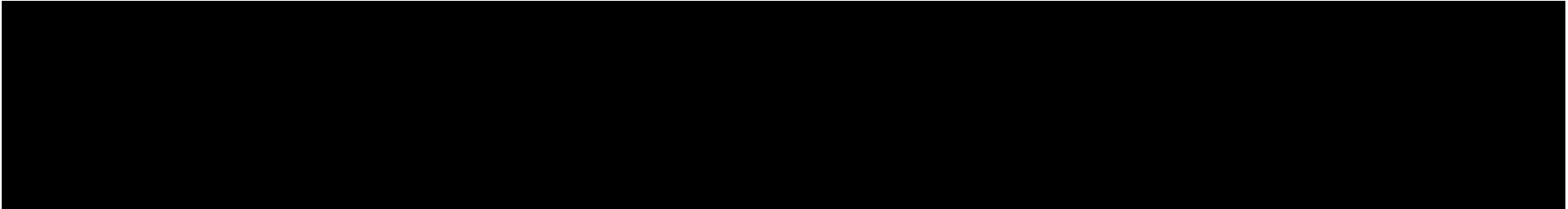


Notes:

- (1) Schedule 9.4.
- (2) Schedule 8.7. Using Chrome data as a proxy.
- (3) GOOG-CABR-04324934-944 at 937. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE
Schedule 9 3



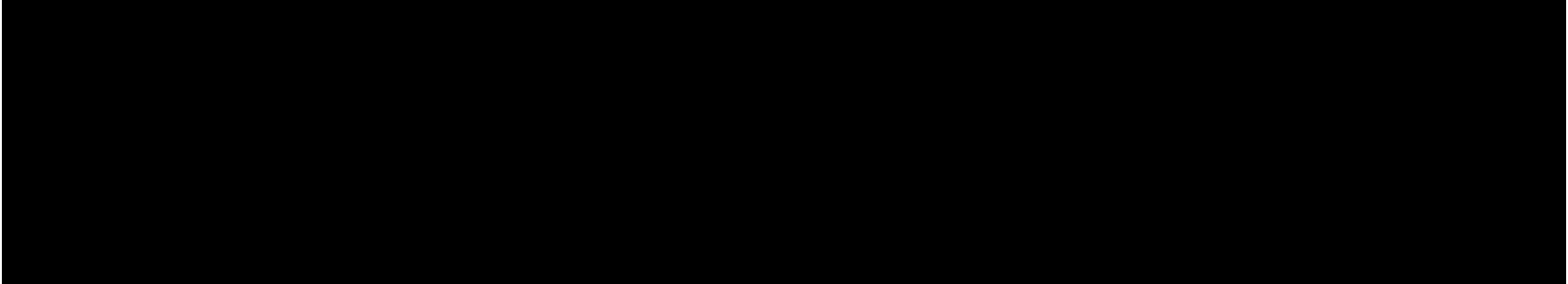
Notes:

(1) Schedule 9 5

(2) Schedule 8 7 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE - ADJUSTED FOR MTP IMPLEMENTATION - EDGE / IE
Schedule 9 4



Notes:

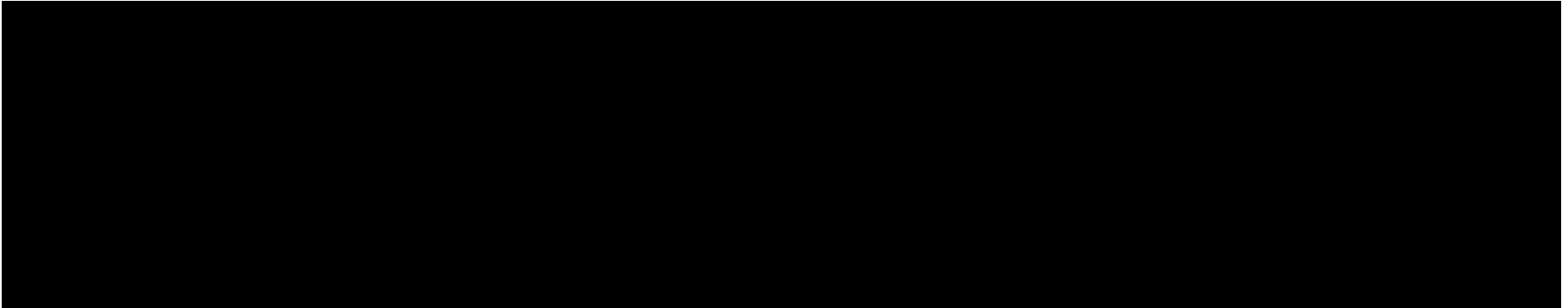
(1) Schedule 9 5

(2) 2020 per Schedule 9 6

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE FROM ALL TRAFFIC - EDGE / IE

Schedule 9 5



Notes:

(1) Schedule 12 3

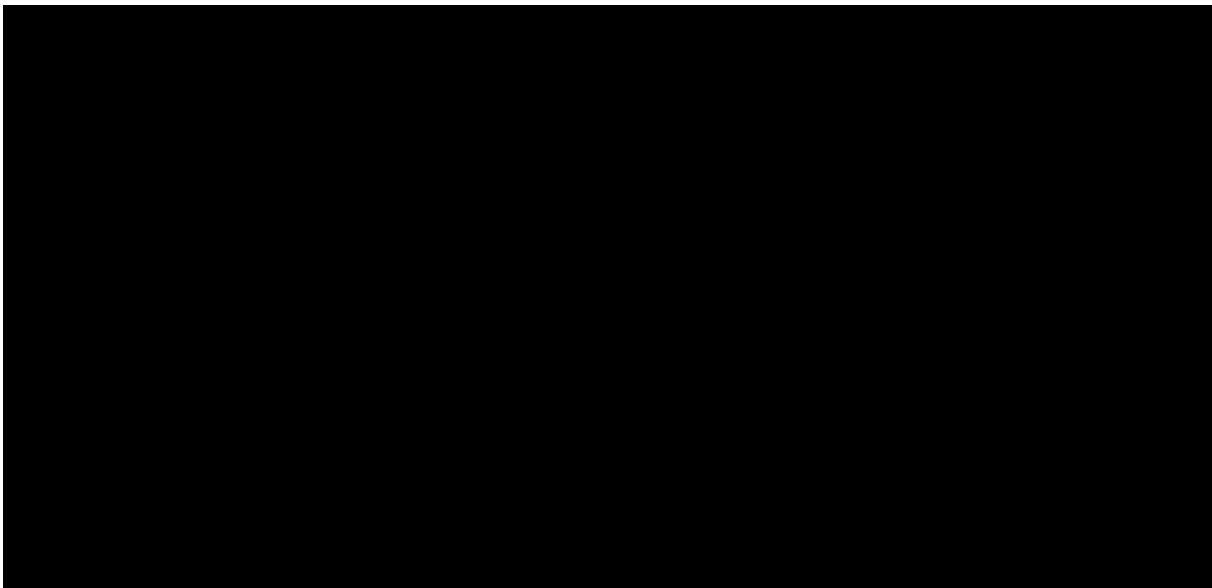
(2) Schedule 14 1 Edge includes Edge, Edge Legacy, Internet Explorer Mobile, and Internet Explorer See Schedule 14 13 and Schedule 14 10

(3) Schedule 22 1

Brown et al v. Google LLC et al.

SEARCH - 2020 ADJUSTMENT FACTOR: SHARE OF REVENUE NOT IMPACTED BY MTP IMPLEMENTATION - EDGE / IE

Schedule 9 6



Notes:

(1) GOOG-CABR-03635725, Tab: "Search "

(2) I understand that Edge blocked third-party cookies as of January 15, 2020. As Google noted in an internal presentation, "*Edge released a Chromium-based version [of MTP] on Jan. 15, 2020 that offers 3 privacy tiers (basic, balanced, and strict). Balanced is set as the default privacy tier for users and restricts 3P cookies.*" See GOOG-CABR-04820567-602 at 583. See also GOOG-CABR-04588763-820 at 781.

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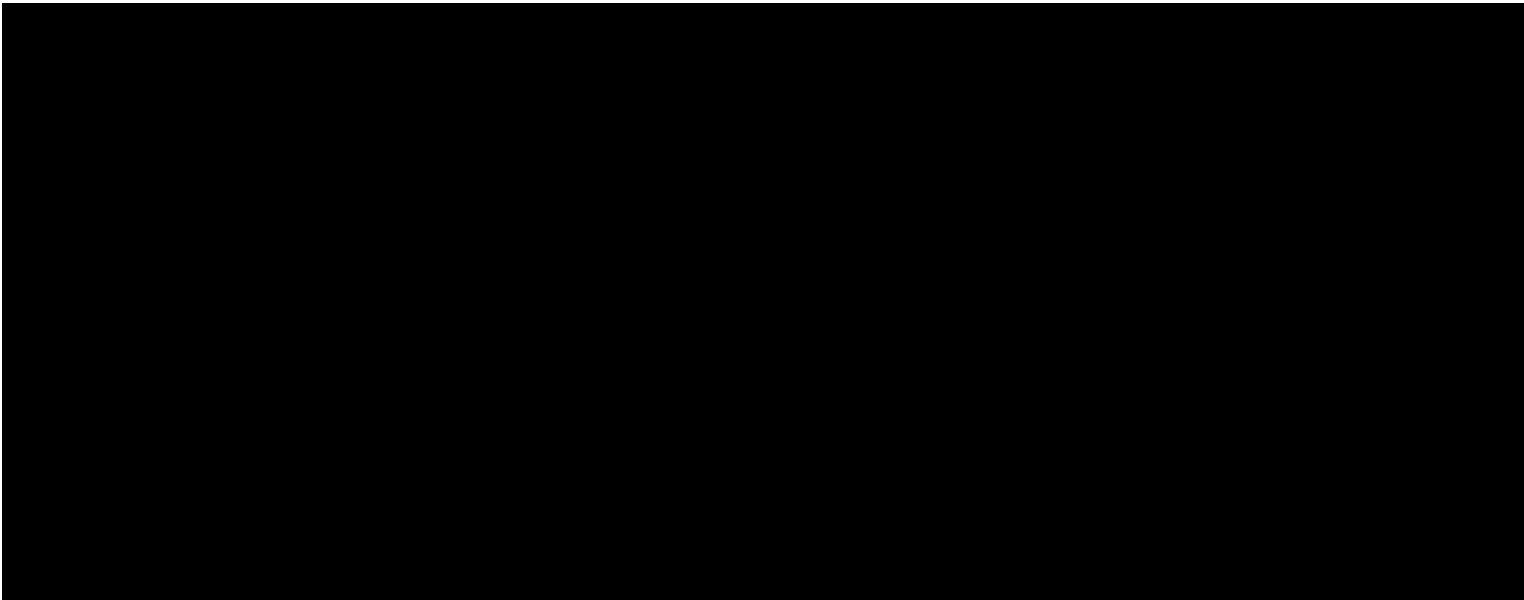
"Balanced," did not block third-party cookie trackers from all websites. As discussed in the presentation produced by Google as GOOG-CABR-04820567-602, the "Balanced" tier "blocks trackers from sites you haven't visited" and "blocks known harmful trackers." See GOOG-CABR-04820567-602 at 583. Additionally, I understand that Edge may not have blocked third-party cookies by default in its private browsing mode until July 2020. See, for example, "Microsoft Edge now blocking Third-Party Cookies In Private mode" per Techdows at <https://techdows.com/2020/07/microsoft-edge-blocks-third-party-cookies-in-private-mode.html> (accessed March 21, 2022).

(3) Calculated as (Search Forecast Monthly Revenues as a % of Annual Revenues) * (MTP Implementation)

(4) Calculated as 1 - (Revenue Adjustment Factor for MTP Implementation)

Brown et al v. Google LLC et al.

SEARCH - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016, TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI
Schedule 10.1



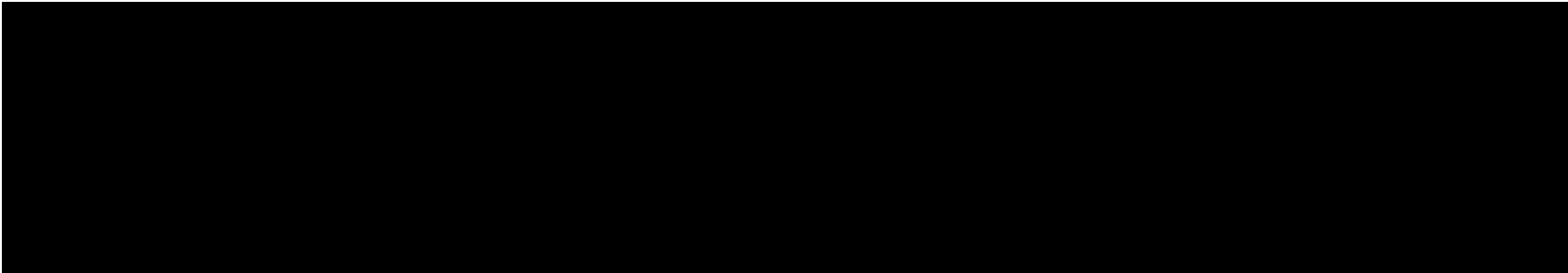
Notes:

- (1) I understand that Search Ads personalization does not rely on third-party cookies. See GOOG-CABR-04324934-944 at 937.
- (2) Schedule 10.3.
- (3) Schedule 10.2.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.4.

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI

Schedule 10.2



Notes:

(1) Schedule 10.4.

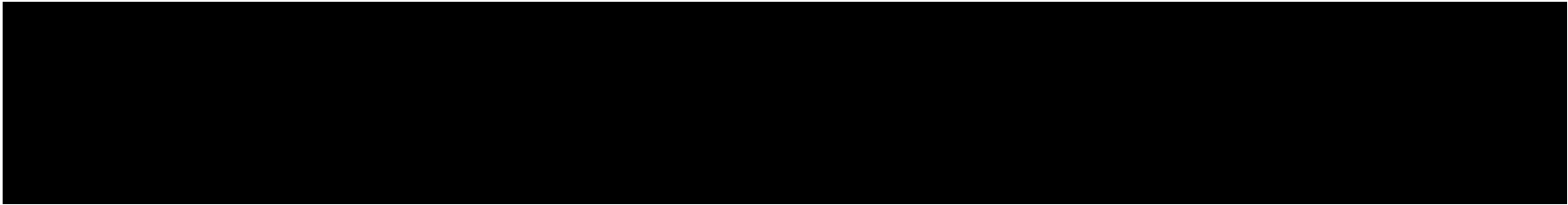
(2) Schedule 8.7. Using Chrome data as a proxy.

(3) GOOG-CABR-04324934-944 at 937. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI

Schedule 10.3



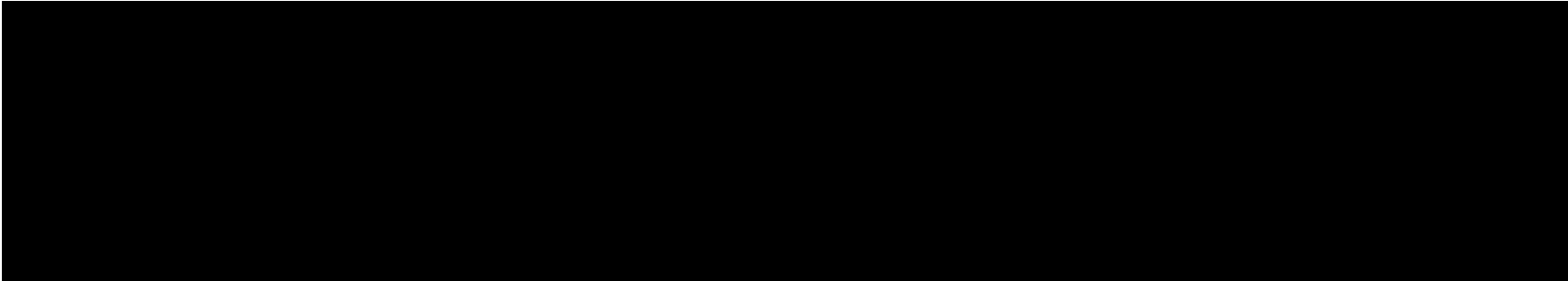
Notes:

(1) Schedule 10.5

(2) Schedule 8.7 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE - ADJUSTED FOR ITP IMPLEMENTATION - SAFARI
Schedule 10 4



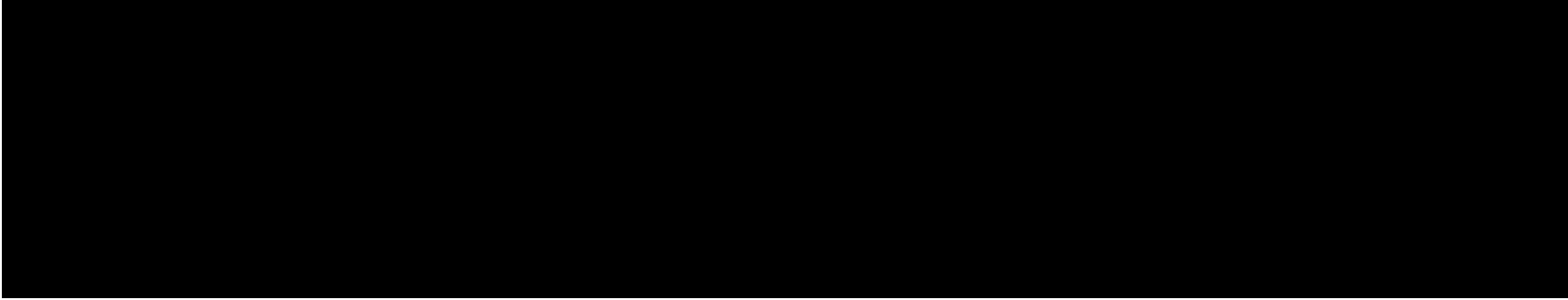
Notes:

- (1) Schedule 10 5
- (2) Schedule 10 6

Brown et al v. Google LLC et al.

SEARCH - PRIVATE BROWSING PORTION OF GOOGLE U.S. SEARCH ADS REVENUE FROM ALL TRAFFIC - SAFARI

Schedule 10 5



Notes:

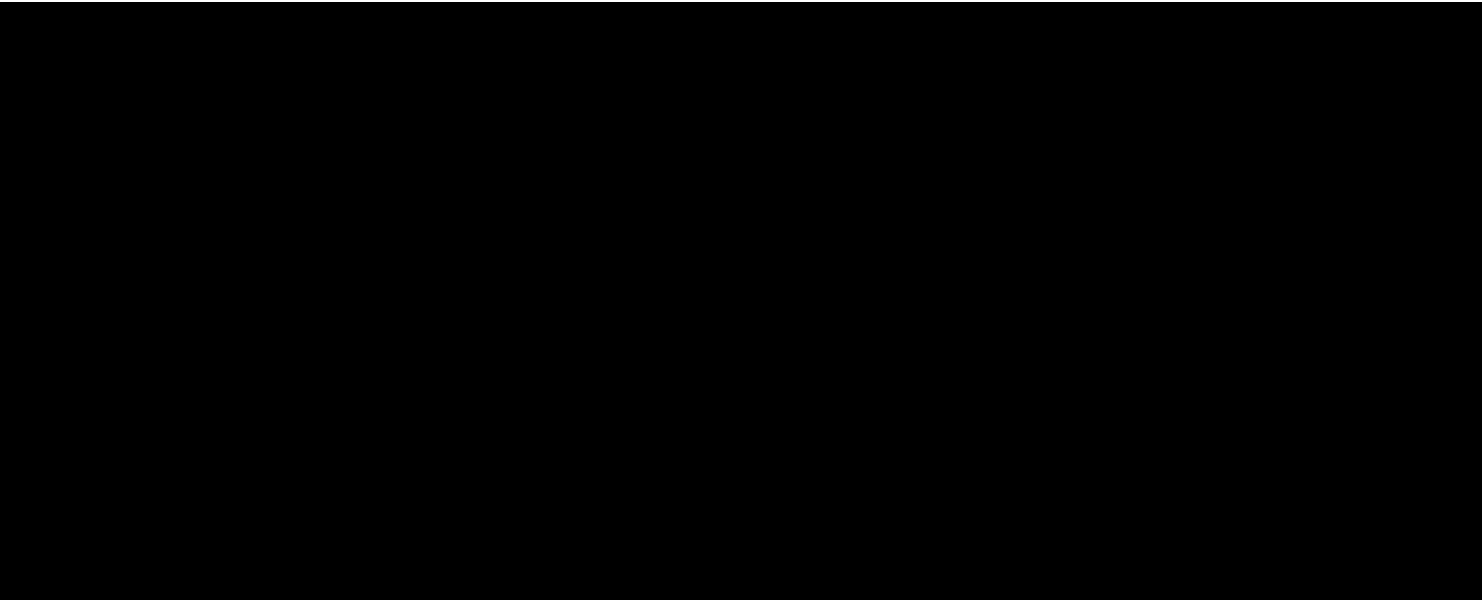
(1) Schedule 12 3

(2) Schedule 14 1

(3) Schedule 22 1

Brown et al v. Google LLC et al.

SEARCH - ADJUSTMENT FACTORS: SHARE OF REVENUE NOT IMPACTED BY ITP IMPLEMENTATION - SAFARI
Schedule 10.6



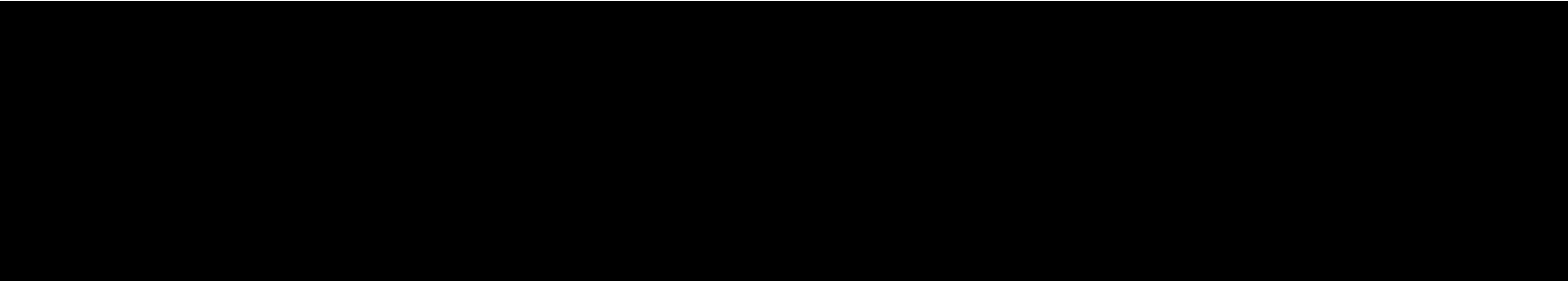
Notes:

- (1) I assumed that 75% of third-party cookies were blocked starting in June 2017 and that this remained constant until April 2020, after which 100% of third-party cookies were blocked. This assumption is consistent with Google documents indicating that Safari blocked “most third-party tracking cookies” with the rollout of ITP 1.0 in June 2017 and Safari’s announcement that third-party cookies were fully blocked as of March 24, 2020. See, GOOG-CABR-04588763 – 820 at 778; GOOG-CABR-00141714 – 721 at 717; and "Safari Enables Full-On Third-Party Cookie Blocking by Default (Aka, No More Workarounds Ever)" per Ad Exchange at <https://www.adexchanger.com/online-advertising/safari-enables-full-on-third-party-cookie-blocking-by-default-aka-no-more-workarounds-ever/> (accessed March 15, 2022).
- (2) Calculated as 1 - (Revenue Adjustment Factor for ITP Implementation).

Brown et al v. Google LLC et al.

INCOGNITO SHARE OF PAGELOADS - AUGUST 2020 TO DECEMBER 2021

Schedule 11.1



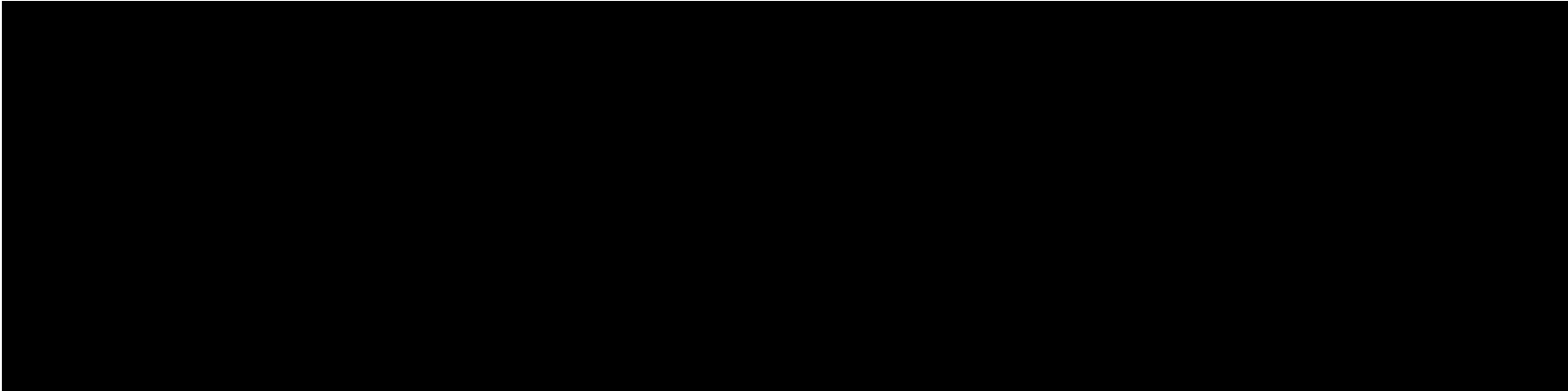
Note:

- (1) Schedule 20.5.
- (2) Schedule 20.4.
- (3) Schedule 20.2.
- (4) Schedule 20.3.
- (5) Schedule 20.6. Data produced for ChromeOS includes only September 2020 through December 2021.
- (6) Schedule 20.7.

Brown et al v. Google LLC et al.

GOOGLE DISPLAY ADS REVENUE - EXCLUDING ADMOB - U.S.

Schedule 12 1



Notes:

(1) Schedule 13 1

(2) Schedule 12 5

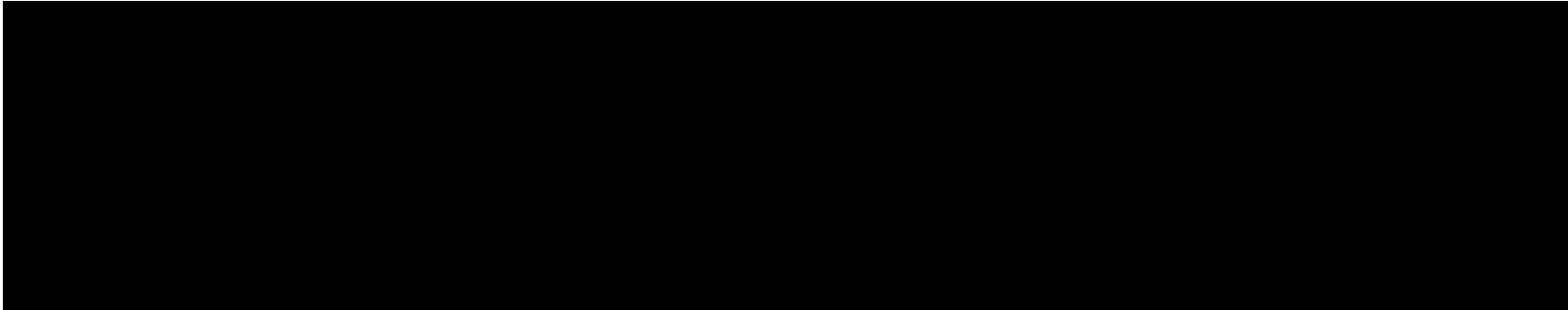
(3) Schedule 12 4

(4) 2016 partial year proration reflects the period from June 1, 2016 to December 31, 2016

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GOOGLE YOUTUBE ADS REVENUE - U.S.

Schedule 12.2



Notes:

(1) Schedule 13.1

(2) Schedule 12.4

(3) 2016 partial year proration reflects the period from June 1, 2016 to December 31, 2016

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GOOGLE SEARCH ADS REVENUE - U.S.

Schedule 12.3



Notes:

(1) Schedule 13.1

(2) Schedule 12.4

(3) 2016 partial year proration reflects the period from June 1, 2016 to December 31, 2016

*Brown et al v. Google LLC et al.***U.S. SHARE OF TOTAL ALPHABET REVENUE**

Schedule 12.4

	2016 ⁽¹⁾	2017 ⁽²⁾	2018 ⁽²⁾	2019 ⁽³⁾	2020 ⁽³⁾	2021 ⁽³⁾
Total Alphabet Revenue	\$90,272,000,000	\$110,855,000,000	\$136,819,000,000	\$161,857,000,000	\$182,527,000,000	\$257,637,000,000
U S Alphabet Revenue	\$42,781,000,000	\$52,449,000,000	\$63,269,000,000	\$74,843,000,000	\$85,014,000,000	\$117,854,000,000
U S Share of Total Alphabet Revenue	47.39%	47.31%	46.24%	46.24%	46.58%	45.74%

Notes:

(1) Alphabet Form 10-K for the fiscal year ended December 31, 2018, p. 56

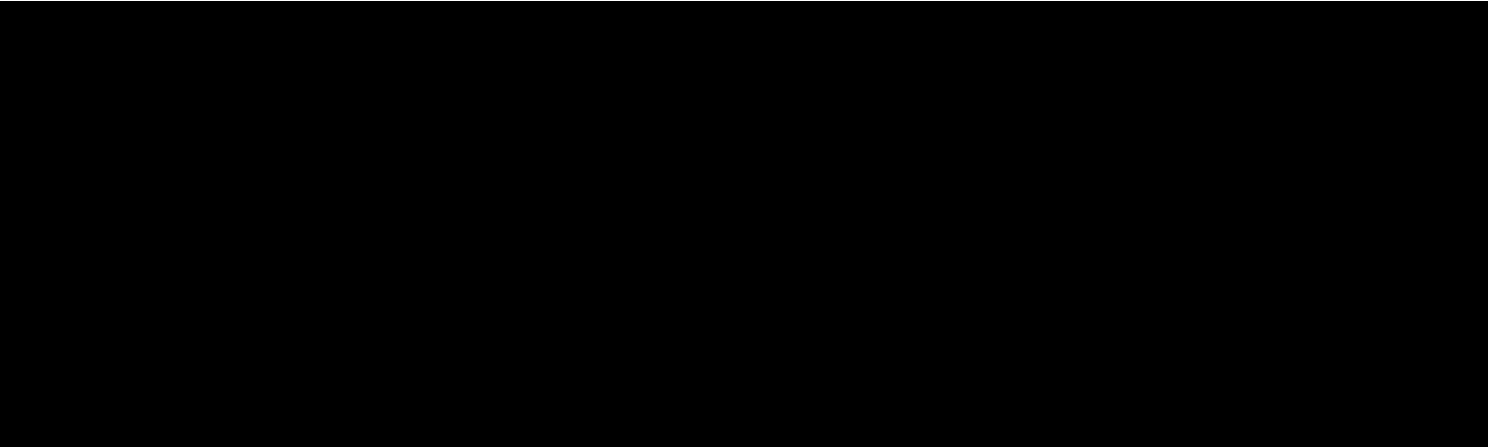
(2) Alphabet Form 10-K for the fiscal year ended December 31, 2019, p. 61

(3) Alphabet Form 10-K for the fiscal year ended December 31, 2021, pp. 60 and 61

Brown et al v. Google LLC et al.

ADMOB SHARE OF DVAA REVENUE

Schedule 12.5



Notes:

(1) GOOG-CABR-04613495 - 522 at 498

(2) GOOG-BRWN-00146251 - 284 at 259

(3) GOOG-CABR-04703695 - 758 at 698 Source document is dated September 2019 2019 totals are represented as expected, and 2020-2021 totals are represented as forecast

(4) DVAA refers to Google's "Display & Video Ads, Mobile Apps and Analytics " See GOOG-CABR-04729089 - 112 at 090

Brown et al v. Google LLC et al.

GOOGLE GLOBAL SEARCH ADS, YOUTUBE ADS, AND DISPLAY ADS REVENUE

Schedule 13.1

	2016	2017	2018	2019	2020	2021
Google Search Ads Revenue (1)						
Google YouTube Ads Revenue		\$8,150,000,000 (3)	\$11,155,000,000 (3)	\$15,149,000,000 (4)	\$19,772,000,000 (4)	\$28,845,000,000 (4)
Google Display Ads Revenue (Network Members' Properties) (5)		\$17,616,000,000 (3)	\$20,010,000,000 (3)	\$21,547,000,000 (4)	\$23,090,000,000 (4)	\$31,701,000,000 (4)

Notes:

(1) Schedule 13.2

(2) Schedule 13.4

(3) Alphabet 10-K for the fiscal year ended December 31, 2019, p. 29

(4) Alphabet 10-K for the fiscal year ended December 31, 2021, p. 60

(5) Alphabet 10-K for the fiscal year ended December 31, 2021, pp. 29-30, 60. See GOOG-CABR-04324934-944

Alphabet indicates in its annual report that its advertising revenues are comprised of three entities: Google Search & Other, YouTube Ads, and Google Network.

The Ads Impact document categorizes the three advertising revenue streams as Search Ads, YouTube Ads, and Display Ads. Based on similarities between publicly reported revenues for Google Network and projected revenues for "Display Ads" in the Ads Impact document, I have used Google Network as Display Ads revenues.

Brown et al v. Google LLC et al.

GOOGLE GLOBAL SEARCH ADS REVENUE

Schedule 13.2

	2016	2017	2018	2019	2020	2021
Google Search & Other Revenue	\$69,811,000,000 (2)	\$85,296,000,000 (3)	\$98,115,000,000 (3)	\$104,062,000,000 (3)	\$148,951,000,000 (3)	
Google Search Ads Revenue Share (4)						
Google Search Ads Revenue	\$54,733,285,841	\$66,897,573,057	\$81,736,336,558	\$94,020,360,409	\$99,719,173,876	\$142,734,818,359

Notes:

(1) Schedule 13 4

(2) Alphabet 10-K for the fiscal year ended December 31, 2019, p. 29

(3) Alphabet 10-K for the fiscal year ended December 31, 2021, p. 60

(4) Schedule 13.3 2020 Search Ads Revenue Share forecast used as proxy for 2016-2019 and 2021

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GOOGLE GLOBAL SEARCH ADS REVENUE SHARE - 2020 FORECAST

Schedule 13.3

Google Search Ads Forecasted Revenue

Play+Gmail Forecasted Revenue

Search and Play+Gmail Forecasted Revenue



Note:

(1) Figure per GOOG-CABR-03635725, Tab: "Sheet5."

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ALLOCATION OF GOOGLE PROPERTIES REVENUE BETWEEN SEARCH & OTHER AND YOUTUBE - 2016
Schedule 13.4

	<u>2016</u>
Google Properties Revenue (1)	\$63,785,000,000
Google Search & Other Share of Google Properties Revenue (2)	<u> </u>
Google Search & Other Revenue	<u>\$57,116,951,232</u>
Google YouTube Ads Revenue (3)	<u>\$6,668,048,768</u>

Notes:

(1) Alphabet 10-K for the fiscal year ended December 31, 2018, p. 27

(2) Schedule 13.5 As Google did not break out Google Properties Revenue between Search & Other and YouTube for 2016, I have applied the 2017 allocation for 2016

(3) Calculated as Google Properties Revenue less Google Search & Other Revenue

Brown et al v. Google LLC et al.

GOOGLE GLOBAL SEARCH & OTHER AND YOUTUBE ADS SHARE OF GOOGLE PROPERTIES REVENUE - 2017

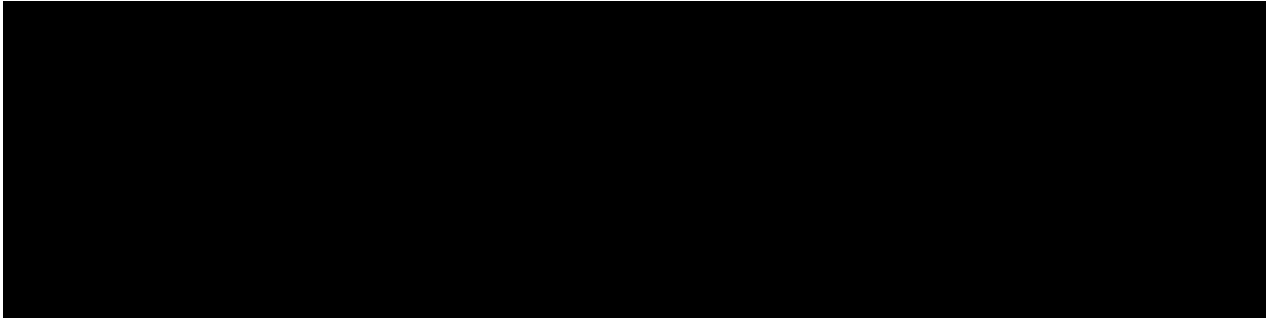
Schedule 13.5

	2017	
	Amount ⁽¹⁾	Percentage
Google Search & Other Revenue	\$69,811,000,000	89.55%
Google YouTube Ads Revenue	\$8,150,000,000	10.45%
Google Properties Revenue	<u>\$77,961,000,000</u>	<u>100.00%</u>

Note:

(1) Alphabet 10-K for the fiscal year ended December 31, 2019, p. 29.

Brown et al v. Google LLC et al.
TRAFFIC SHARE - SUMMARY
Schedule 14.1



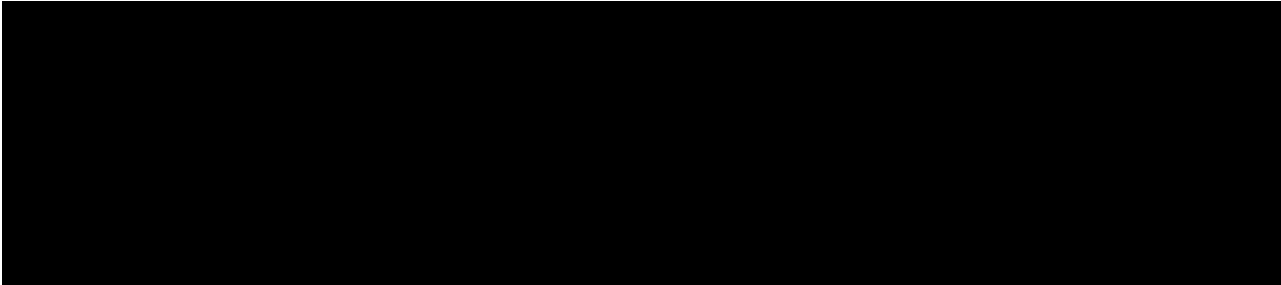
Notes:

- (1) Schedule 14 14.
- (2) Schedule 14.7.
- (3) Schedule 14 5.
- (4) Schedule 14 3.
- (5) Schedule 14 2.

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TRAFFIC SHARE - EXCLUDED AS RELATED TO APPS

Schedule 14 2



Notes:

(1) Schedule 14 14

(2) Schedule 14 7

(3) Schedule 14 5

(4) Schedule 14 3

Brown et al v. Google LLC et al.

TRAFFIC SHARE ALLOCATED BY PLATFORM - OTHER

Schedule 14 3

		2016	2017	2018	2019	2020	2021
<i>Allocation by Platform:</i>							
Other - Mobile (1)	[a]	41 69%	39 53%	39 30%	44 10%	40 75%	44 25%
Other - Desktop (1)	[b]	58 31%	60 47%	60 70%	55 90%	59 25%	55 75%
Other- Total		100 0%	100 0%	100 0%	100 0%	100 0%	100 0%
Traffic Share - Other Browsers and Related Apps (2)	[c]	10 73%	9 05%	8 15%	7 62%	6 89%	6 49%
<i>Traffic Shares Allocated by Platform:</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	4 47%	3 58%	3 20%	3 36%	2 81%	2 87%
Mobile Non-Apps	[f] = [d] * [e]	2 46%	1 97%	1 76%	1 85%	1 54%	1 58%
Desktop	[g] = [b] * [c]	6 25%	5 47%	4 94%	4 26%	4 08%	3 62%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	8 71%	7 44%	6 71%	6 11%	5 63%	5 20%
Mobile - App	[i] = [d] - [f]	2 01%	1 61%	1 44%	1 51%	1 26%	1 29%

Notes:

(1) Schedule 14 4

(2) Schedule 14 11

(3) GOOG-CABR-04611594 - 625 at 606

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - OTHER BROWSERS

Schedule 14.4

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Market Share</i>						
Other Browsers - Mobile (1)	11.34%	8.99%	7.25%	7.84%	6.73%	6.65%
Other Browsers - Desktop (1)	<u>15.86%</u>	<u>13.75%</u>	<u>11.20%</u>	<u>9.94%</u>	<u>9.78%</u>	<u>8.39%</u>
Other Browsers - Combined	<u>27.19%</u>	<u>22.74%</u>	<u>18.45%</u>	<u>17.78%</u>	<u>16.51%</u>	<u>15.04%</u>
<i>Allocation by Platform</i>						
Other Browsers - Mobile (2)	<u>41.69%</u>	<u>39.53%</u>	<u>39.30%</u>	<u>44.10%</u>	<u>40.75%</u>	<u>44.25%</u>
Other Browsers - Desktop (3)	<u>58.31%</u>	<u>60.47%</u>	<u>60.70%</u>	<u>55.90%</u>	<u>59.25%</u>	<u>55.75%</u>

Note:

(1) Schedule 14 9.

(2) Calculated as (Other Browsers - Mobile) / (Other Browsers - Combined).

(3) Calculated as (Other Browsers - Desktop) / (Other Browsers - Combined).

Brown et al v. Google LLC et al.

TRAFFIC SHARE ALLOCATED BY PLATFORM - EDGE / INTERNET EXPLORER
Schedule 14.5

		<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Allocation by Platform</i>							
Edge / IE - Mobile (1)	[a]	3.67%	1.57%	0.79%	0.42%	1.13%	1.31%
Edge / IE - Desktop (1)	[b]	96.33%	98.43%	99.21%	99.58%	98.87%	98.69%
Edge / IE - Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Traffic Share - Edge / IE Browsers and Related Apps (2)	[c]	10.60%	8.13%	7.54%	6.91%	5.86%	5.61%
<i>Traffic Share Allocated by Platform</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	0.39%	0.13%	0.06%	0.03%	0.07%	0.07%
Mobile, Non-Apps	[f] = [d] * [e]	0.21%	0.07%	0.03%	0.02%	0.04%	0.04%
Desktop	[g] = [b] * [c]	10.21%	8.00%	7.48%	6.88%	5.79%	5.54%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	10.42%	8.07%	7.51%	6.89%	5.83%	5.58%
Mobile - App	[i] = [d] - [f]	0.17%	0.06%	0.03%	0.01%	0.03%	0.03%

Notes:

(1) Schedule 14.6.

(2) Schedule 14 11.

(3) GOOG-CABR-04611594 - 625 at 606.

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - EDGE / INTERNET EXPLORER

Schedule 14.6

	2016	2017	2018	2019	2020	2021
<i>Market Share</i>						
Edge / IE - Mobile (1)	0.90%	0.33%	0.14%	0.07%	0.18%	0.19%
Edge / IE - Desktop (1)	23.74%	20.59%	18.00%	17.19%	15.32%	13.98%
Edge / IE - Combined	24.65%	20.92%	18.15%	17.27%	15.50%	14.16%
<i>Allocation by Platform</i>						
Edge / IE - Mobile (2)	3.67%	1.57%	0.79%	0.42%	1.13%	1.31%
Edge / IE - Desktop (3)	96.33%	98.43%	99.21%	99.58%	98.87%	98.69%

Notes:

(1) Schedule 14.9.

(2) Calculated as (Edge / IE - Mobile) / (Edge - Combined).

(3) Calculated as (Edge / IE - Desktop) / (Edge - Combined).

Brown et al v. Google LLC et al.

TRAFFIC SHARE ALLOCATED BY PLATFORM - SAFARI

Schedule 14.7

		2016	2017	2018	2019	2020	2021
<i>Allocation by Platform</i>							
Safari - Mobile (1)	[a]	85.62%	83.84%	85.37%	84.28%	77.65%	74.97%
Safari - Desktop (1)	[b]	14.38%	16.16%	14.63%	15.72%	22.35%	25.03%
Safari - Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Traffic Share - Safari Browser & Related Apps (2)	[c]	19.93%	24.07%	25.57%	26.72%	28.50%	29.15%
<i>Traffic Share Allocated by Platform</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	17.06%	20.18%	21.83%	22.52%	22.13%	21.85%
Mobile, Non-Apps	[f] = [d] * [e]	9.38%	11.10%	12.00%	12.39%	12.17%	12.02%
Desktop	[g] = [b] * [c]	2.87%	3.89%	3.74%	4.20%	6.37%	7.30%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	12.25%	14.99%	15.75%	16.59%	18.54%	19.31%
Mobile - Apps	[i] = [d] - [f]	7.68%	9.08%	9.82%	10.13%	9.96%	9.83%

Notes:

(1) Schedule 14.8.

(2) Schedule 14 11.

(3) GOOG-CABR-04611594 - 625 at 606.

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - MOBILE AND DESKTOP - SAFARI

Schedule 14.8

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Market Share</i>						
Safari - Mobile (1)	51.26%	51.58%	52.13%	52.01%	55.83%	54.54%
Safari - Desktop (1)	<u>8.61%</u>	<u>9.94%</u>	<u>8.94%</u>	<u>9.70%</u>	<u>16.07%</u>	<u>18.21%</u>
Safari - Combined	<u>59.87%</u>	<u>61.52%</u>	<u>61.06%</u>	<u>61.71%</u>	<u>71.91%</u>	<u>72.75%</u>
<i>Allocation by Platform</i>						
Safari - Mobile (2)	<u>85.62%</u>	<u>83.84%</u>	<u>85.37%</u>	<u>84.28%</u>	<u>77.65%</u>	<u>74.97%</u>
Safari - Desktop (3)	<u>14.38%</u>	<u>16.16%</u>	<u>14.63%</u>	<u>15.72%</u>	<u>22.35%</u>	<u>25.03%</u>

Notes:

(1) Schedule 14.9.

(2) Calculated as (Safari - Mobile) / (Safari - Combined).

(3) Calculated as (Safari - Desktop) / (Safari - Combined).

Brown et al v. Google LLC et al.

U.S. MARKET SHARE SUMMARY BY BROWSER - MOBILE AND DESKTOP

Schedule 14 9

	2016	2017	2018	2019	2020	2021
<i>Mobile:</i>						
Chrome (1)	36.49%	39.10%	40.47%	40.07%	37.26%	38.62%
Safari (1)	51.26%	51.58%	52.13%	52.01%	55.83%	54.54%
Edge / IE (2)	0.90%	0.33%	0.14%	0.07%	0.18%	0.19%
Other (1)	11.34%	8.99%	7.25%	7.84%	6.73%	6.65%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<i>Desktop:</i>						
Chrome (3)	51.79%	55.72%	61.86%	63.16%	58.83%	59.43%
Safari (3)	8.61%	9.94%	8.94%	9.70%	16.07%	18.21%
Edge / IE (2)	23.74%	20.59%	18.00%	17.19%	15.32%	13.98%
Other (3)	15.86%	13.75%	11.20%	9.94%	9.78%	8.39%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:

(1) <https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

(2) Schedule 14 10

(3) <https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

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EDGE / INTERNET EXPLORER U.S. MARKET SHARE SUMMARY - MOBILE AND DESKTOP

Schedule 14 10

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Mobile:</i>						
IE Mobile (1)	0.84%	0.26%	0.11%	0.05%	0.02%	0.00%
Edge Legacy (1)	<u>0.07%</u>	<u>0.07%</u>	<u>0.04%</u>	<u>0.02%</u>	<u>0.16%</u>	<u>0.18%</u>
Edge / IE	<u>0.90%</u>	<u>0.33%</u>	<u>0.14%</u>	<u>0.07%</u>	<u>0.18%</u>	<u>0.19%</u>
<i>Desktop:</i>						
Edge Legacy (2)	4.30%	6.82%	7.55%	8.56%	4.49%	0.31%
Edge (2)	0.00%	0.00%	0.00%	0.00%	5.32%	11.66%
IE (2)	<u>19.45%</u>	<u>13.77%</u>	<u>10.45%</u>	<u>8.63%</u>	<u>5.51%</u>	<u>2.00%</u>
Edge / IE	<u>23.74%</u>	<u>20.59%</u>	<u>18.00%</u>	<u>17.19%</u>	<u>15.32%</u>	<u>13.98%</u>

Notes:

(1) <https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

(2) <https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

*Brown et al v. Google LLC et al.***U.S. TRAFFIC SHARE - SAFARI, EDGE / INTERNET EXPLORER, OTHER BROWSERS, AND RELATED APP TRAFFIC**

Schedule 14 11

	2016	2017	2018	2019	2020	2021
<i>Overall</i>						
Traffic Share - All Browsers and Apps	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<i>Safari</i>						
Traffic Share - All Other Browsers and Related Apps (2)	41.25%	41.25%	41.25%	41.25%	41.25%	41.25%
Safari as a Share of Total U S Browser Market - Excluding Chrome (3)	48.31%	58.36%	61.98%	64.78%	69.09%	70.66%
Traffic Share - Safari Browser and Related Apps (4)	19.93%	24.07%	25.57%	26.72%	28.50%	29.15%
<i>Edge / Internet Explorer</i>						
Traffic Share - All Other Browsers and Related Apps (2)	41.25%	41.25%	41.25%	41.25%	41.25%	41.25%
Internet Explorer / Edge as a Share of Total U S Browser Market - Excluding Chrome (3)	25.69%	19.70%	18.27%	16.74%	14.21%	13.61%
Traffic Share - Internet Explorer / Edge Browsers and Related Apps (4)	10.60%	8.13%	7.54%	6.91%	5.86%	5.61%
<i>Other Browsers</i>						
Traffic Share - All Other Browsers and Related Apps (2)	41.25%	41.25%	41.25%	41.25%	41.25%	41.25%
Other Browsers as a Share of Total U S Browser Market - Excluding Chrome (3)	26.00%	21.94%	19.75%	18.48%	16.70%	15.74%
Traffic Share - Other Browsers and Related Apps (4)	10.73%	9.05%	8.15%	7.62%	6.89%	6.49%

Notes:

(1) Schedule 14 14

(2) Calculated as (Traffic Share - All Browsers and Related Apps) less (Traffic Share - Chrome and Related Apps)

(3) Schedule 14 12

(4) Calculated as (Traffic Share - All Other Browsers and Related) * (Browser as a Share of Total U S Browser Market - Excluding Chrome)

Brown et al v. Google LLC et al.

U.S BROWSER MARKET SHARE - EXCLUDING CHROME

Schedule 14 12

	2016	2017	2018	2019	2020	2021
Browser Market Share - U S						
Chrome (1)	43 48%	45 29%	49 32%	49 40%	46 99%	48 46%
Safari (1)	27 31%	31 93%	31 41%	32 78%	36 62%	36 41%
Edge / Internet Explorer (2)	14 52%	10 78%	9 26%	8 47%	7 53%	7 01%
Other Browsers (1) (3)	14 70%	12 00%	10 01%	9 35%	8 85%	8 11%
Total	100 00%	100 00%	100 00%	100 00%	100 00%	100 00%
U S Browser Market Share - Excluding Chrome	56 53%	54 70%	50 68%	50 60%	53 01%	51 53%
U S Browser Market Share - Excluding Chrome						
Safari as a Share of Total U S Browser Market - Excluding Chrome	48 31%	58 36%	61 98%	64 78%	69 09%	70 66%
Edge / Internet Explorer as a Share of Total U S Browser Market Share - Excluding Chrome	25 69%	19 70%	18 27%	16 74%	14 21%	13 61%
Other Browsers as a Share of Total U S Browser Market - Excluding Chrome	26 00%	21 94%	19 75%	18 48%	16 70%	15 74%
Total	100 00%	100 00%	100 00%	100 00%	100 00%	100 00%

Notes:

- (1) Data per Statcounter as downloaded from: <https://gs.statcounter.com/browser-market-share/all/united-states-of-america> (accessed January 13, 2022)
Statcounter market share is based on page views See <https://gs.statcounter.com/faq> (accessed April 8, 2022)
Monthly Statcounter data was used to determine average annual market share by browser across desktop, mobile, and tablet
- (2) Schedule 14 13
- (3) Examples of Other Browsers include, among others, Firefox, Samsung Internet, Android, Opera, UC Browser, Sony PS4, IEMobile ,and 360 Safe Browser
See data per Statcounter as downloaded from: <https://gs.statcounter.com/browser-market-share/all/united-states-of-america> (accessed January 13, 2022)

Brown et al v. Google LLC et al.

SUMMARY OF STATCOUNTER U.S. BROWSERS MARKET SHARE DATA: EDGE / INTERNET EXPLORER

Schedule 14.13

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Edge Legacy	2.63%	3.72%	3.92%	4.25%	2.26%	0.32%
Edge	0.00%	0.00%	0.00%	0.00%	2.64%	5.71%
Internet Explorer	<u>11.89%</u>	<u>7.06%</u>	<u>5.34%</u>	<u>4.22%</u>	<u>2.63%</u>	<u>0.98%</u>
Total Edge / Internet Explorer	<u>14.52%</u>	<u>10.78%</u>	<u>9.26%</u>	<u>8.47%</u>	<u>7.53%</u>	<u>7.01%</u>

Notes:

Data per Statcounter as downloaded from: <https://gs.statcounter.com/browser-market-share/all/united-states-of-america> (accessed January 13, 2022).

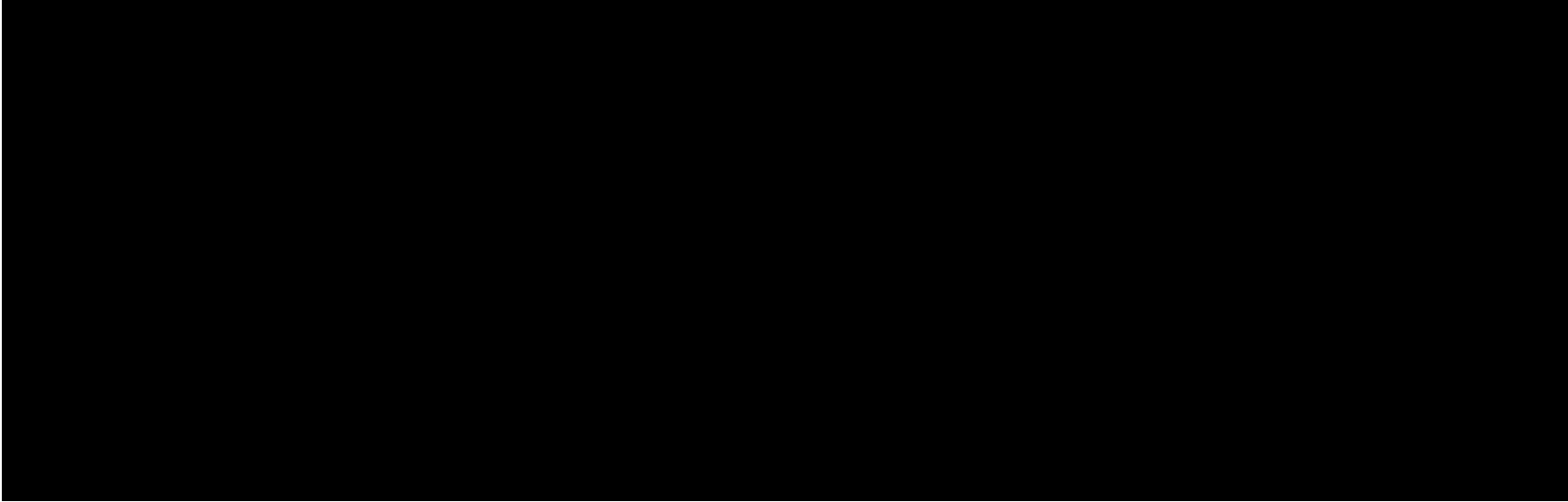
Statcounter market share is based on page views. See <https://gs.statcounter.com/faq> (accessed April 8, 2022).

Monthly Statcounter data was used to determine average annual market share by browser across desktop, mobile, and tablet.

Brown et al v. Google LLC et al.

STANDARD (NON-APP) CHROME SHARE OF TRAFFIC WEIGHTED BY OPERATING SYSTEM SHARE OF TOTAL CHROME PAGELOADS

Schedule 14 14



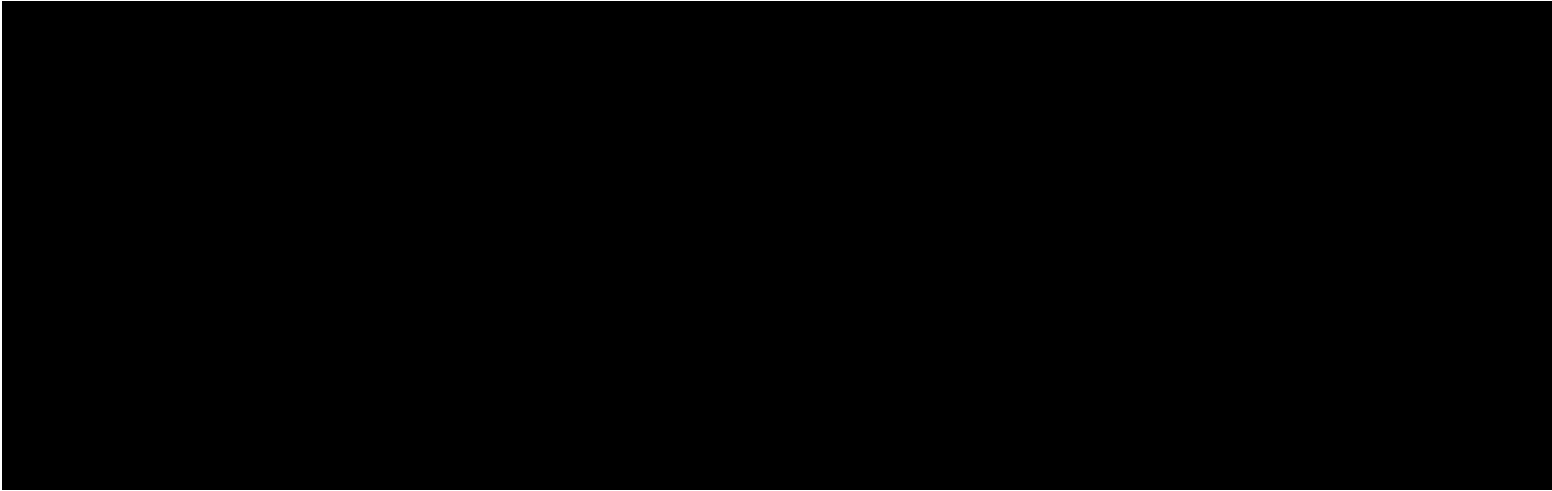
Notes:

- (1) GOOG-CABR-00390798 Metadata, p 15; GOOG-CABR-04324934-944
- (2) GOOG-CABR-03842057 and GOOG-BRWN-00139742
- (3) Schedule 20 2
- (4) Schedule 20 3
- (5) Schedule 20 4
- (6) Schedule 20 5
- (7) Schedule 20 6
- (8) Schedule 20 7
- (9) GOOG-CABR-04611594 - 625 at 606 Assumes all "non-standard" traffic is app traffic and that standard traffic share is consistent across Search, YouTube, and Display

Brown et al v. Google LLC et al.

DISPLAY - CONVERSION TRACKING - PER ADS IMPACT DOCUMENT

Schedule 15.1



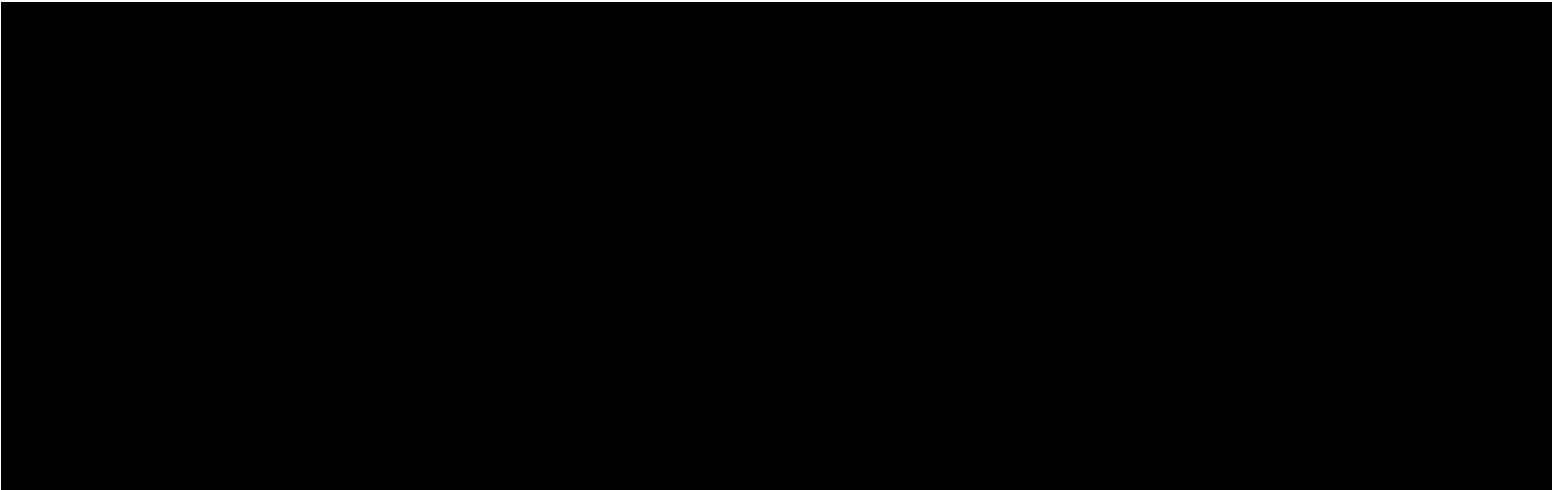
Note:

GOOG-CABR-04324934 – 944 at 935 and GOOG-CABR-03635725, tab "Display - conversion "

Brown et al v. Google LLC et al.

DISPLAY - PERSONALIZATION - PER ADS IMPACT DOCUMENT

Schedule 15.2



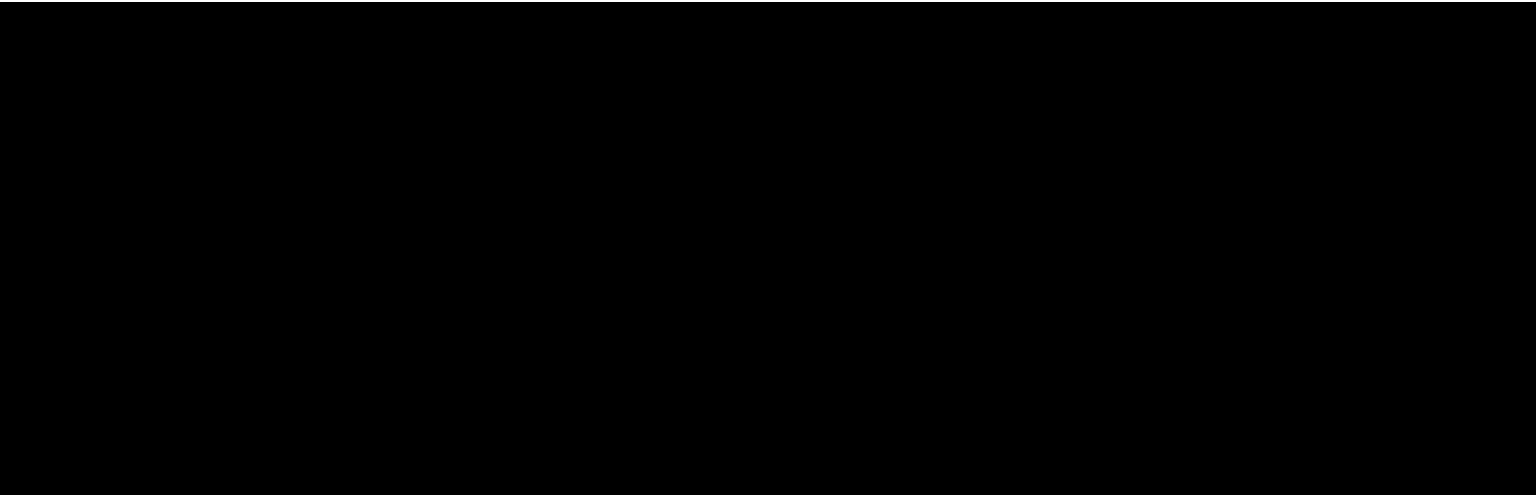
Note:

GOOG-CABR-04324934 – 944 at 935 and GOOG-CABR-03635725, tab "Display - p13n "

Brown et al v. Google LLC et al.

DISPLAY - CONVERSION TRACKING - PER ADS IMPACT DOCUMENT - "BETTER INDICATOR FOR 2021"

Schedule 15.3

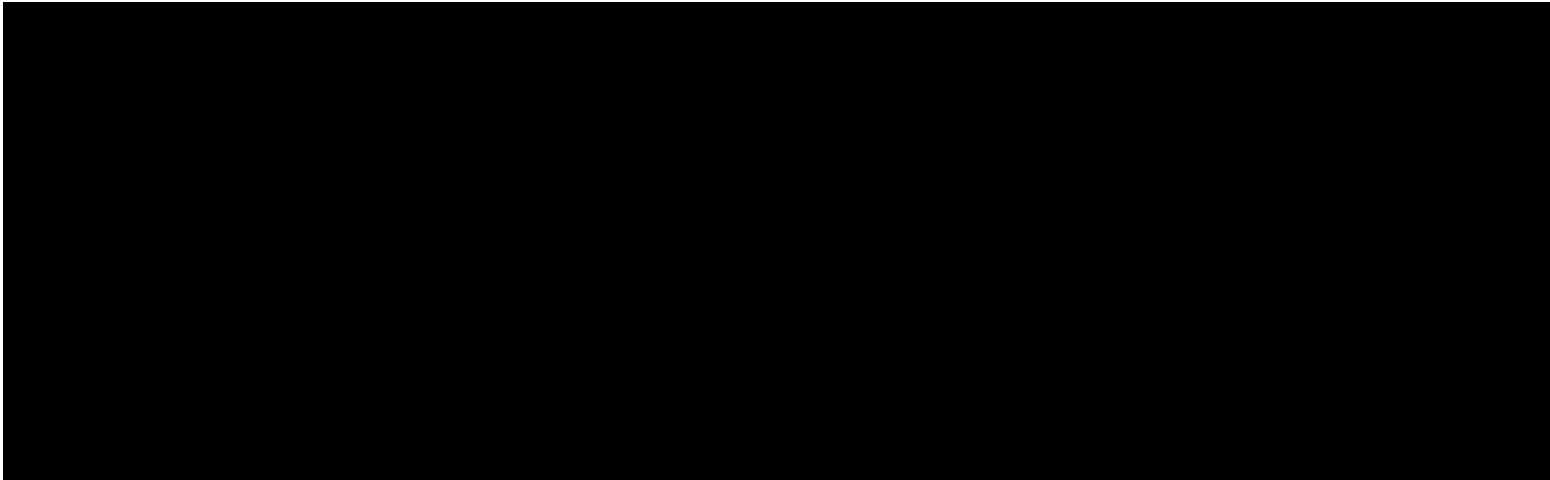


Note:

GOOG-CABR-04324934 – 944 at 935 and GOOG-CABR-03635725, tab "Display - conversion "

Brown et al v. Google LLC et al.

DISPLAY - PERSONALIZATION - PER ADS IMPACT DOCUMENT - "BETTER INDICATOR FOR 2021"
Schedule 15.4



Note:

GOOG-CABR-04324934 – 944 at 935 and GOOG-CABR-03635725, tab "Display - p13n "

*Brown et al v. Google LLC et al.***ACTUAL DAMAGES THROUGH DECEMBER 31, 2021**

Schedule 16 1

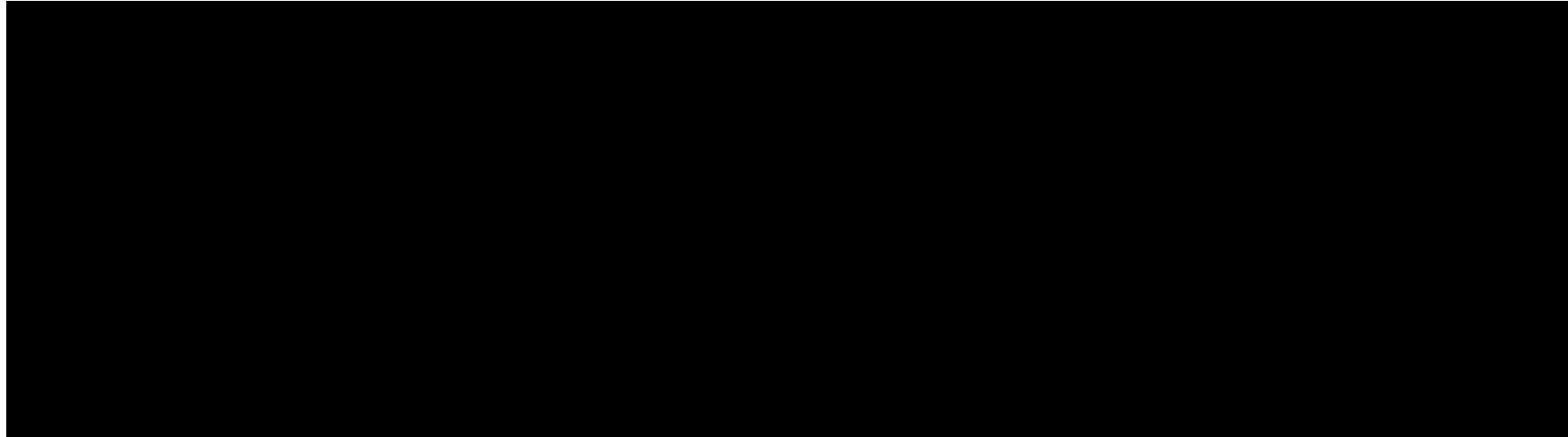
	June 1, 2016 - Dec. 31, 2016	2017	2018	2019	2020	2021	Total
Class 1 Actual Damages (1)	\$657,625,116	\$1,235,527,781	\$1,293,237,966	\$1,330,059,064	\$1,398,069,013	\$2,013,664,486	\$7,928,183,425
Class 2 Actual Damages (2)	\$96,475,538	\$188,875,323	\$176,591,477	\$187,257,545	\$227,838,411	\$313,967,645	\$1,191,005,939
Total	<u>\$754,100,654</u>	<u>\$1,424,403,104</u>	<u>\$1,469,829,443</u>	<u>\$1,517,316,609</u>	<u>\$1,625,907,423</u>	<u>\$2,327,632,131</u>	<u>\$9,119,189,364</u>

Notes:

(1) Schedule 16 3

(2) Schedule 16 2

Brown et al v. Google LLC et al.
CLASS 2 - ACTUAL DAMAGES
Schedule 16 2



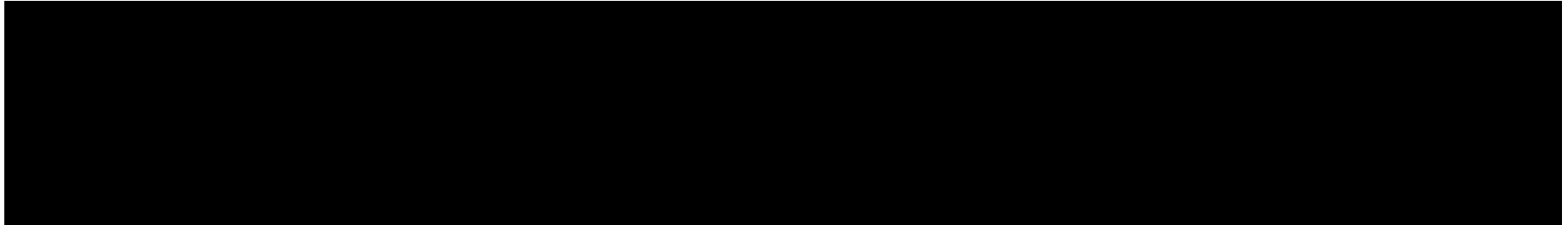
Notes:

(1) Schedule 16 4

(2) Schedule 23 1

(3) I have used \$3 00 per Instance-Month as an example payment based on the payments received per month for participation in the Ipsos Screenwise Panel See GOOG-CABR-X-00000421 - 465 at 423

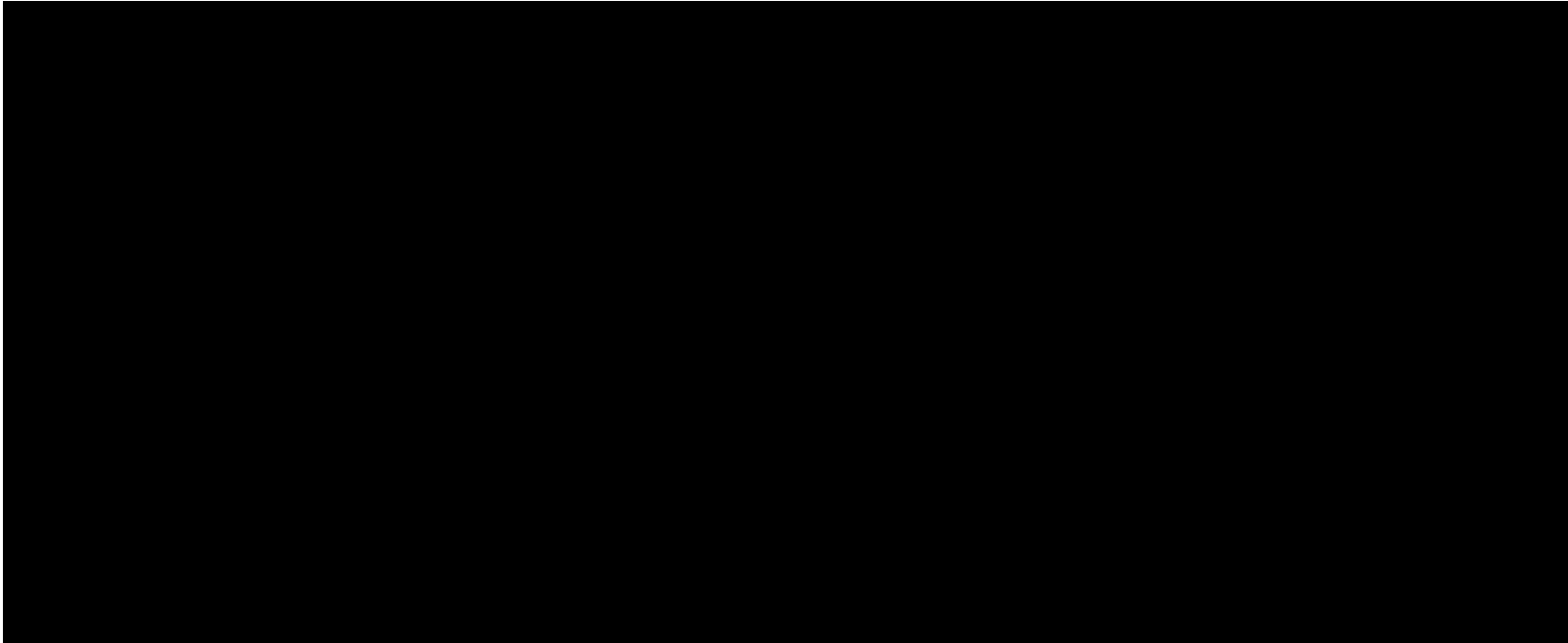
Brown et al v. Google LLC et al.
CLASS 1 - ACTUAL DAMAGES
Schedule 16.3



Notes:

- (1) Schedule 16.4
- (2) Report Section 8.1.4

Brown et al v. Google LLC et al.
UMPBI - CLASS 1 AND CLASS 2
Schedule 16 4



Notes:

- (1) Schedule 16 5
- (2) Schedule 21 1
- (3) GOOG-BRWN-00035610-622 at 617 Report Sections 8 2 1 and 8 2 2

Brown et al v. Google LLC et al.

TOTAL UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER - PRIOR TO ADJUSTMENTS FOR GOOGLE ACCOUNT USERS AND SIGNED OUT BROWSING
Schedule 16 5

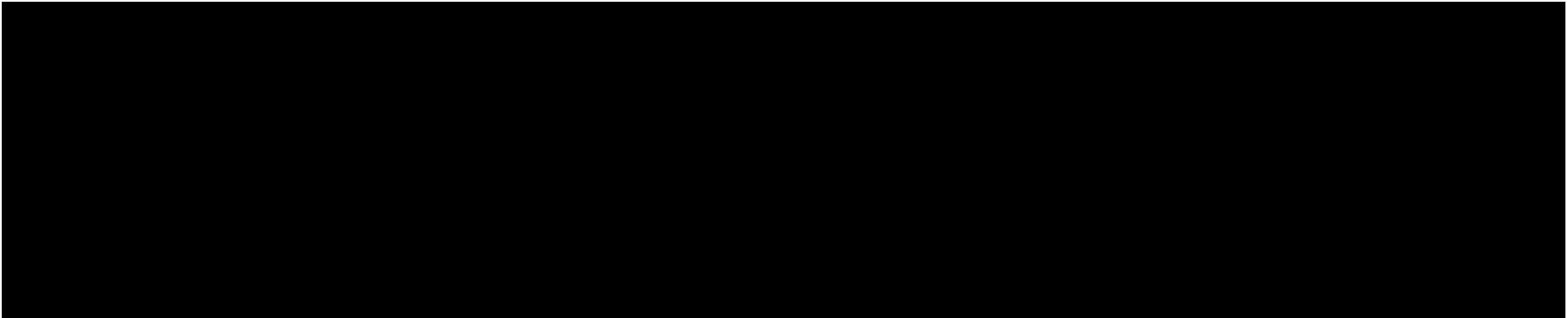
Notes:

- (1) Schedule 17 1
- (2) Schedule 17 2
- (3) Schedule 17 3
- (4) Schedule 17 4
- (5) Schedule 17 5
- (6) Schedule 17 6

Brown et al v. Google LLC et al.

2016 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17 1



Notes:

(1) Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40), p. 6. This data is described to contain "Monthly Total U.S. Chrome Instances" and does not appear to require further scaling.

(2) Schedule 17 7

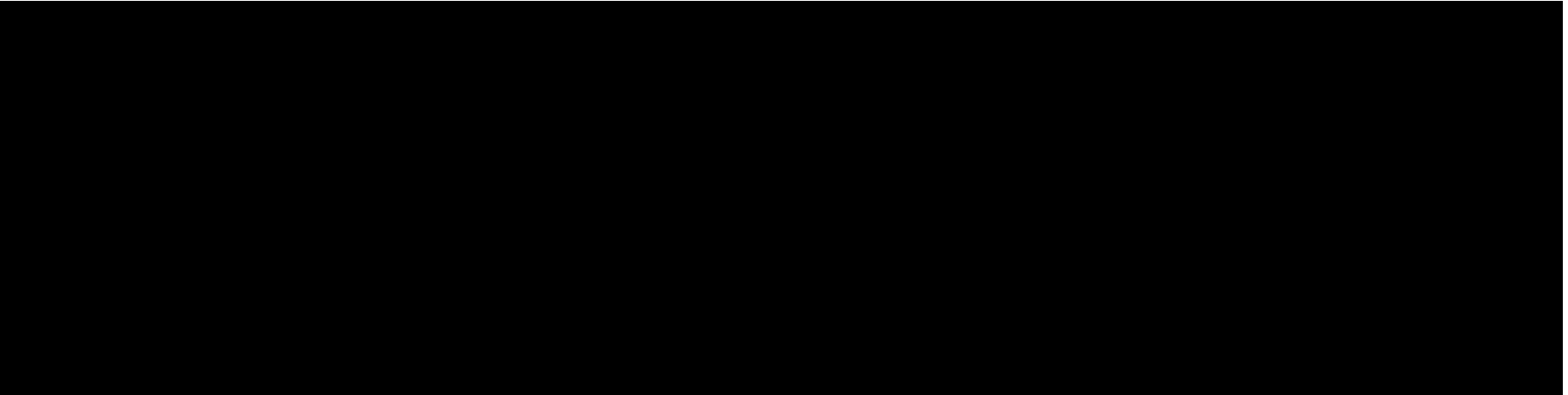
(3) Schedule 18 1

(4) Schedule 22 1

Brown et al v. Google LLC et al.

2017 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17.2



Notes:

- (1) Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40), p. 6. This data is described to contain "Monthly Total U.S. Chrome Instances" and does not appear to require further scaling.
- (2) Schedule 17.7
- (3) Schedule 18.1
- (4) Schedule 22.1

Brown et al v. Google LLC et al.

2018 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17.3



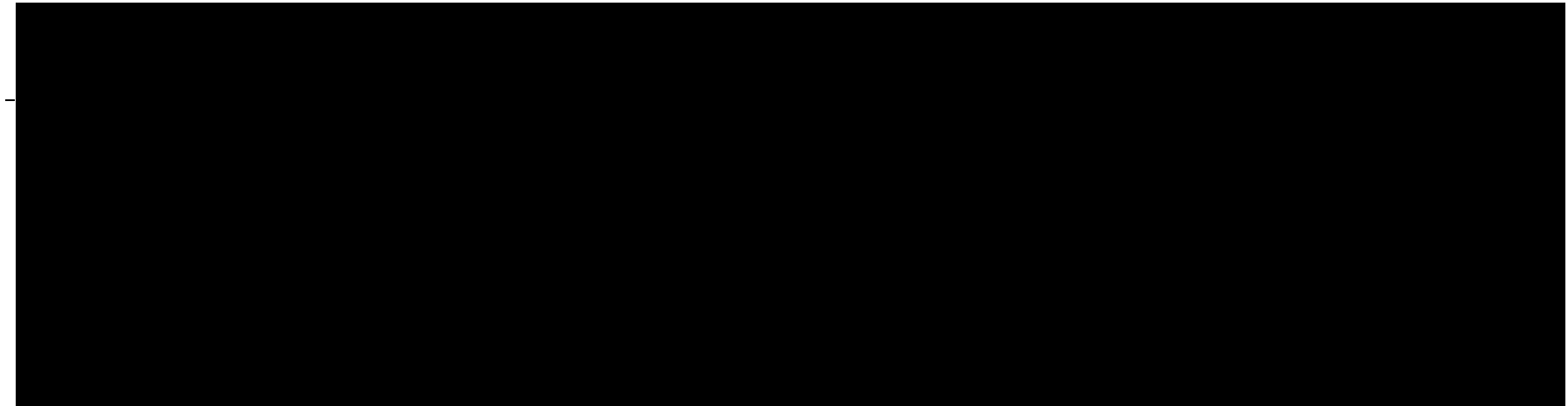
Notes:

- (1) Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40), pp. 6-7. This data is described to contain "Monthly Total U.S. Chrome Instances" and does not appear to require further scaling.
- (2) Schedule 17.7
- (3) Schedule 18.1
- (4) Schedule 22.1

Brown et al v. Google LLC et al.

2019 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17.4



Notes:

(1) Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40), p. 7. This data is described to contain "Monthly Total U.S. Chrome Instances" and does not appear to require further scaling.

(2) Schedule 17.7

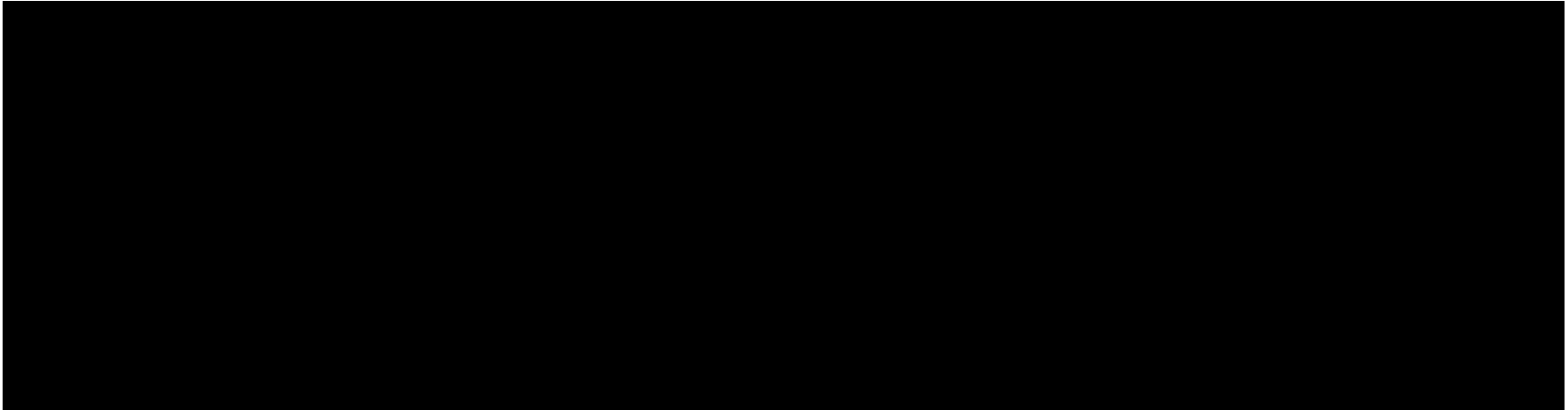
(3) Schedule 18.1

(4) Schedule 22.1

Brown et al v. Google LLC et al.

2020 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17.5



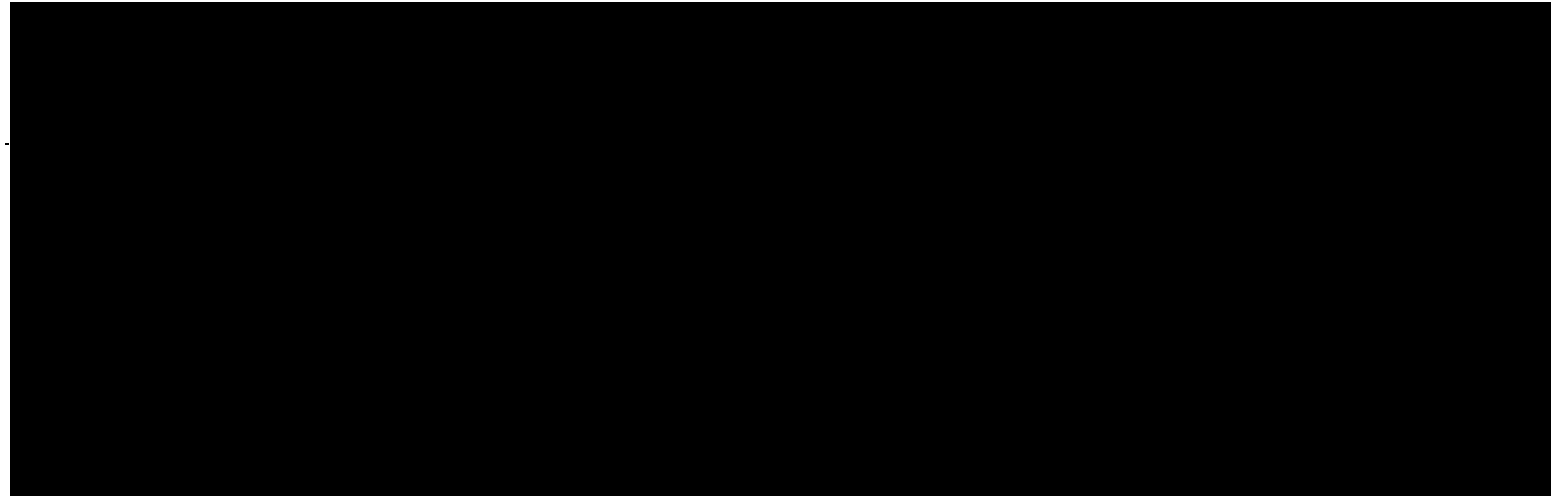
Notes:

- (1) Defendant's Objections and Responses to Plaintiffs' Interrogatories Set 9 (Nos. 34-40), p. 7. This data is described to contain "Monthly Total U.S. Chrome Instances" and does not appear to require further scaling.
- (2) Schedule 17.7
- (3) Schedule 18.1
- (4) Schedule 22.1

Brown et al v. Google LLC et al.

2021 UNIQUE MONTHLY PRIVATE BROWSING INSTANCES - CHROME, SAFARI, EDGE / INTERNET EXPLORER

Schedule 17 6



Notes:

(1) Schedule 19 1 Google did not produce unique client data for January 2021 for Windows January 2021 monthly total is therefore calculated by setting Windows client count equal to February 2021

(2) Schedule 17 7

(3) Schedule 22 1

Brown et al v. Google LLC et al.

U.S. BROWSER MARKET SHARE - JUNE 2016 TO DECEMBER 2021

Schedule 17.7

Year	Month	Chrome	Safari	Internet Explorer	Edge Legacy	Edge	Edge / Internet Explorer Total	Total Other Browsers
2016	June	44.43%	26.73%	11.84%	2.73%	0.00%	14.57%	14.27%
2016	July	44.08%	28.56%	9.37%	3.00%	0.00%	12.37%	14.99%
2016	August	42.61%	28.33%	10.62%	3.07%	0.00%	13.69%	15.37%
2016	September	43.45%	26.95%	10.81%	2.85%	0.00%	13.66%	15.94%
2016	October	44.27%	29.88%	9.09%	3.06%	0.00%	12.15%	13.70%
2016	November	44.85%	30.62%	8.20%	3.11%	0.00%	11.31%	13.22%
2016	December	44.14%	30.90%	8.61%	3.21%	0.00%	11.82%	13.14%
2017	January	43.07%	30.88%	10.07%	3.29%	0.00%	13.36%	12.69%
2017	February	44.71%	31.36%	8.12%	3.42%	0.00%	11.54%	12.39%
2017	March	45.09%	32.03%	7.47%	3.29%	0.00%	10.76%	12.12%
2017	April	45.21%	31.79%	7.27%	3.35%	0.00%	10.62%	12.38%
2017	May	45.59%	31.20%	7.53%	3.31%	0.00%	10.84%	12.37%
2017	June	44.85%	32.46%	7.27%	3.35%	0.00%	10.62%	12.07%
2017	July	44.72%	33.08%	6.22%	3.43%	0.00%	9.65%	12.55%
2017	August	44.35%	33.60%	6.31%	3.42%	0.00%	9.73%	12.32%
2017	September	45.17%	31.50%	6.13%	3.28%	0.00%	11.41%	11.82%
2017	October	45.58%	30.91%	6.72%	4.97%	0.00%	11.69%	11.82%
2017	November	47.03%	31.74%	6.16%	4.01%	0.00%	10.17%	11.06%
2017	December	48.16%	32.56%	5.41%	3.55%	0.00%	8.96%	10.32%
2018	January	50.35%	30.73%	5.26%	3.50%	0.00%	8.76%	10.16%
2018	February	51.63%	30.09%	4.96%	3.44%	0.00%	8.40%	9.88%
2018	March	48.60%	32.30%	5.24%	3.71%	0.00%	8.95%	10.15%
2018	April	48.45%	31.01%	5.72%	3.94%	0.00%	9.66%	10.88%
2018	May	48.65%	31.47%	5.58%	3.85%	0.00%	9.43%	10.45%
2018	June	47.96%	31.63%	6.01%	3.95%	0.00%	9.96%	10.45%
2018	July	48.72%	31.35%	5.59%	3.90%	0.00%	9.49%	10.44%
2018	August	49.16%	31.02%	5.48%	4.11%	0.00%	9.59%	10.23%
2018	September	49.91%	31.59%	4.96%	4.00%	0.00%	8.96%	9.54%
2018	October	50.04%	31.44%	5.22%	4.02%	0.00%	9.24%	9.28%
2018	November	49.13%	32.38%	5.06%	4.26%	0.00%	9.32%	9.17%
2018	December	49.29%	31.95%	5.00%	4.33%	0.00%	9.33%	9.43%
2019	January	48.76%	31.59%	5.29%	4.56%	0.00%	9.85%	9.80%
2019	February	49.21%	31.55%	5.17%	4.65%	0.00%	9.82%	9.42%
2019	March	48.99%	31.78%	5.13%	4.44%	0.00%	9.57%	9.66%
2019	April	49.48%	31.79%	4.99%	4.31%	0.00%	9.30%	9.43%
2019	May	50.66%	31.06%	4.88%	4.23%	0.00%	9.11%	9.17%
2019	June	49.23%	32.00%	4.79%	4.45%	0.00%	9.24%	9.53%
2019	July	48.29%	32.69%	4.78%	4.50%	0.00%	9.28%	9.74%
2019	August	49.85%	32.72%	3.75%	4.22%	0.00%	7.97%	9.46%
2019	September	50.00%	33.43%	3.52%	4.11%	0.00%	7.63%	8.94%
2019	October	51.11%	32.85%	3.25%	3.96%	0.00%	7.21%	8.83%
2019	November	49.35%	35.03%	2.73%	3.95%	0.00%	6.68%	8.94%
2019	December	47.85%	36.85%	2.36%	3.66%	0.00%	6.02%	9.28%
2020	January	47.79%	36.28%	2.62%	3.96%	0.01%	6.59%	9.34%
2020	February	47.38%	36.28%	3.11%	3.94%	0.16%	7.21%	9.13%
2020	March	45.54%	38.22%	3.37%	3.73%	0.44%	7.54%	8.70%
2020	April	45.20%	39.29%	2.49%	3.70%	0.73%	6.92%	8.59%
2020	May	47.56%	35.91%	2.71%	3.61%	1.08%	7.40%	9.13%
2020	June	47.75%	35.26%	2.91%	3.07%	1.87%	7.85%	9.14%
2020	July	47.33%	35.40%	2.82%	1.66%	3.54%	8.02%	9.25%
2020	August	47.30%	35.56%	2.66%	1.02%	4.34%	8.02%	9.12%
2020	September	48.00%	35.40%	2.50%	0.73%	4.62%	7.85%	8.75%
2020	October	48.29%	35.55%	2.31%	0.63%	4.97%	7.91%	8.25%
2020	November	46.17%	37.83%	2.19%	0.54%	4.87%	7.60%	8.40%
2020	December	45.61%	38.48%	1.91%	0.48%	5.07%	7.46%	8.45%
2021	January	45.83%	38.85%	1.33%	0.46%	5.25%	7.04%	8.28%
2021	February	46.75%	37.67%	1.32%	0.44%	5.56%	7.32%	8.26%
2021	March	47.57%	37.16%	1.21%	0.40%	5.53%	7.14%	8.13%
2021	April	48.08%	36.57%	1.15%	0.37%	5.42%	6.94%	8.41%
2021	May	49.13%	35.88%	1.00%	0.38%	5.36%	6.74%	8.25%
2021	June	48.51%	36.33%	0.98%	0.37%	5.64%	6.99%	8.17%
2021	July	48.06%	36.75%	0.96%	0.34%	5.56%	6.86%	8.33%
2021	August	48.81%	35.92%	0.92%	0.37%	5.79%	7.08%	8.19%
2021	September	50.37%	34.64%	0.83%	0.31%	5.95%	7.09%	7.90%
2021	October	50.31%	34.89%	0.78%	0.14%	6.18%	7.05%	7.75%
2021	November	49.42%	35.56%	0.71%	0.13%	6.40%	7.24%	7.78%
2021	December	48.72%	36.72%	0.63%	0.11%	5.92%	6.66%	7.90%

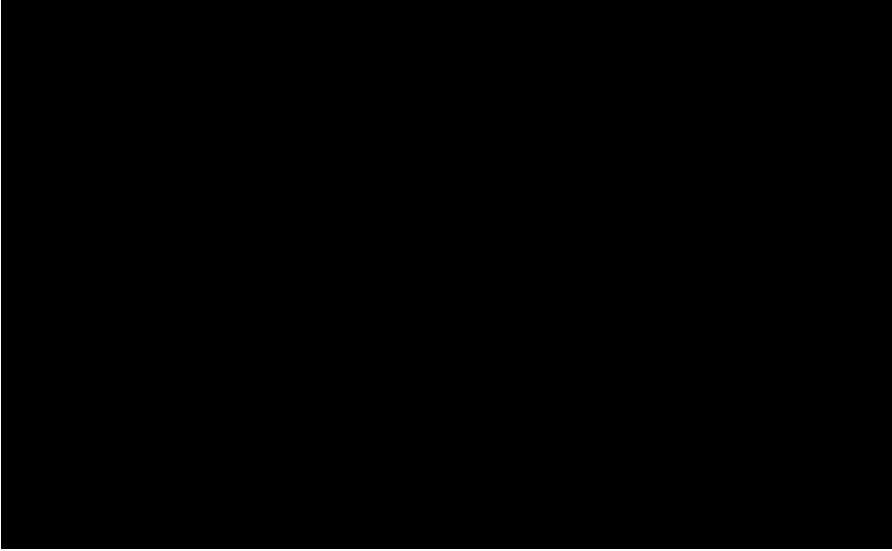
Notes:

<https://gs.statcounter.com/browser-market-share/all/united-states-of-america/#monthly-201606-202201> (accessed April 8, 2022).

Brown et al v. Google LLC et al.

INCOGNITO UNIQUE CLIENTS SHARE OF TOTAL

Schedule 18.1



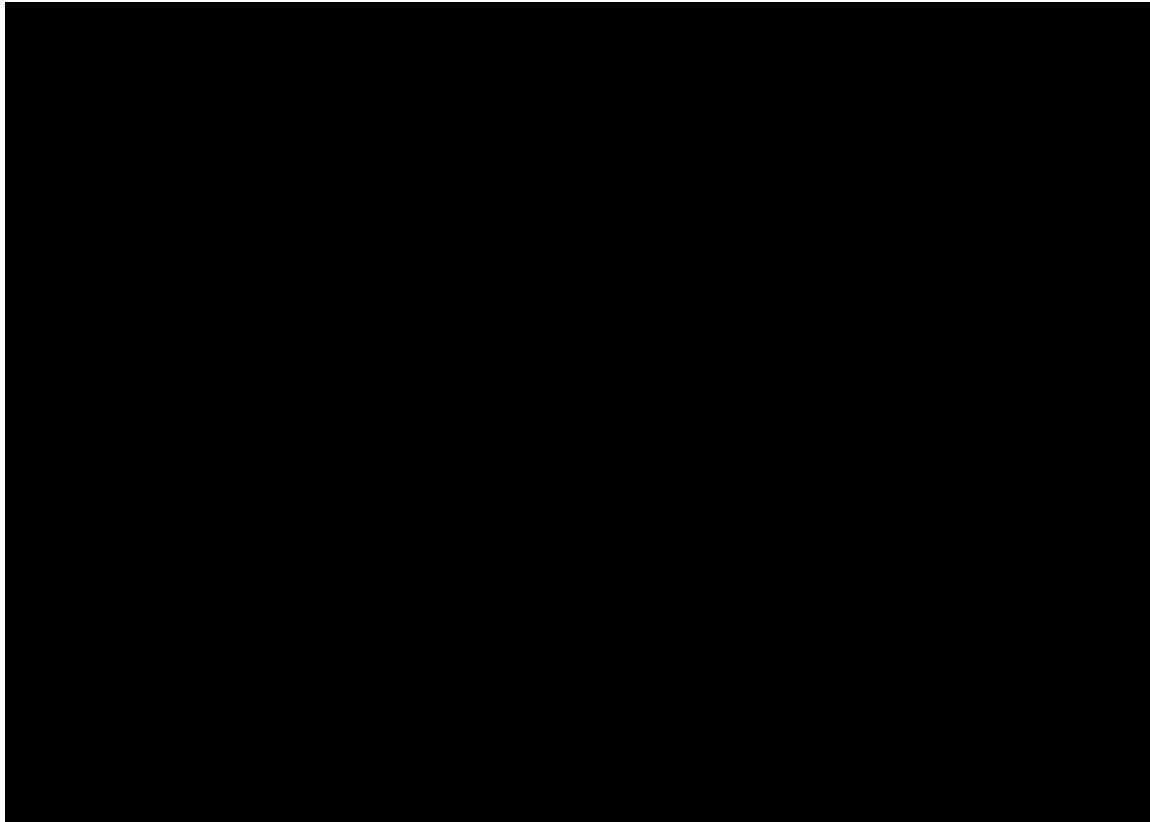
Note:

(1) Schedule 19 1.

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - INCOGNITO AND TOTAL CHROME - 2021

Schedule 19 1



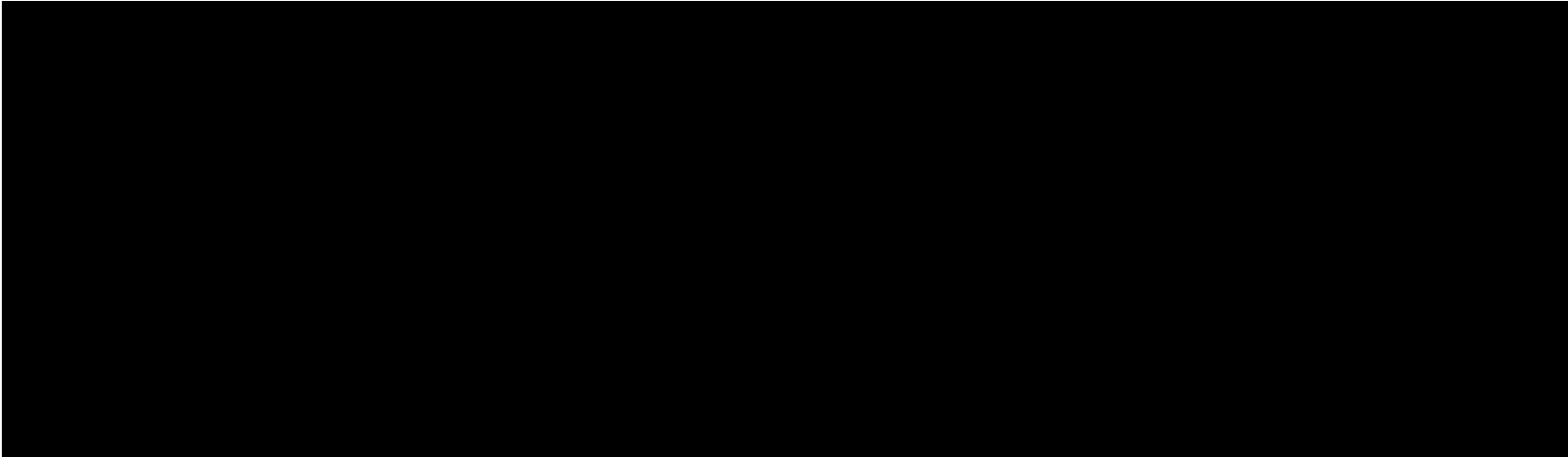
Notes:

- (1) Schedule 19 7
- (2) Schedule 19 6
- (3) Schedule 19 5
- (4) Schedule 19 4
- (5) Schedule 19 3
- (6) Schedule 19 2

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - CHROMEOS - 2021

Schedule 19.2



Notes:

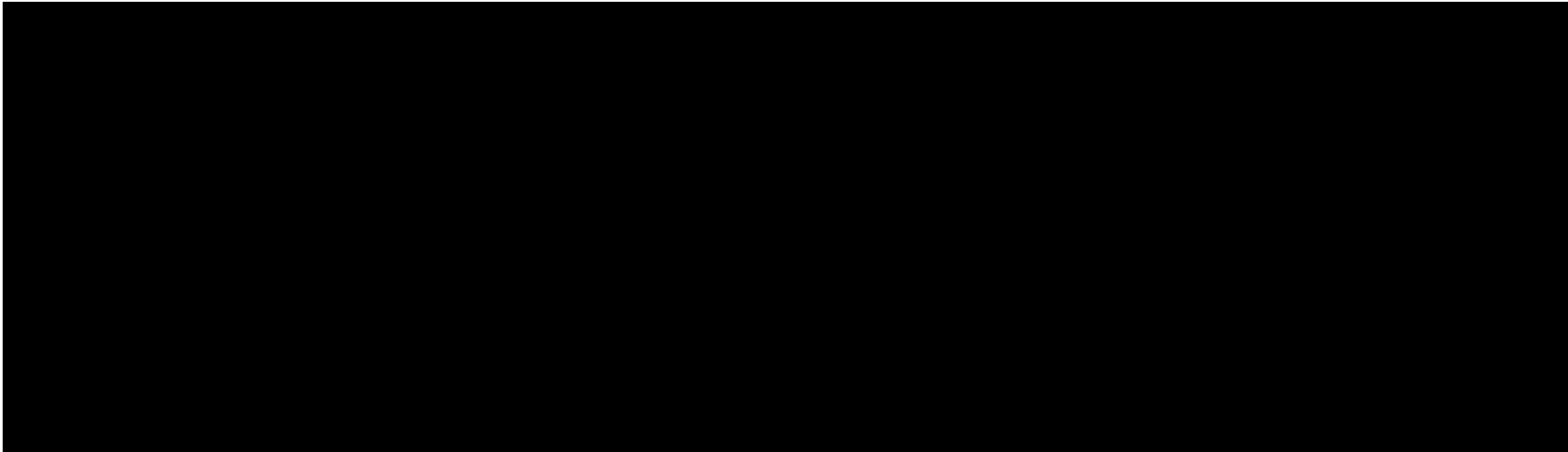
(1) GOOG-CABR-05886430 at tab "Unique Clients Distribution per "

(2) See Email from Tracey Gao re: "Brown v Google – UMA data," April 5, 2022

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - MACOS - 2021

Schedule 19 3



Notes:

- (1) GOOG-CABR-05886432 at tab "Unique Clients Distribution per "
- (2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - LINUX - 2021

Schedule 19.4



Notes:

(1) GOOG-CABR-05886431 at tab "Unique Clients Distribution per "

(2) Scaling data has not been produced for Linux, so I have assumed no scaling for this operating system

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - WINDOWS - 2021

Schedule 19.5



Notes:

- (1) GOOG-CABR-05886433 at tab "Unique Clients Distribution per "
- (2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - ANDROID - 2021

Schedule 19 6



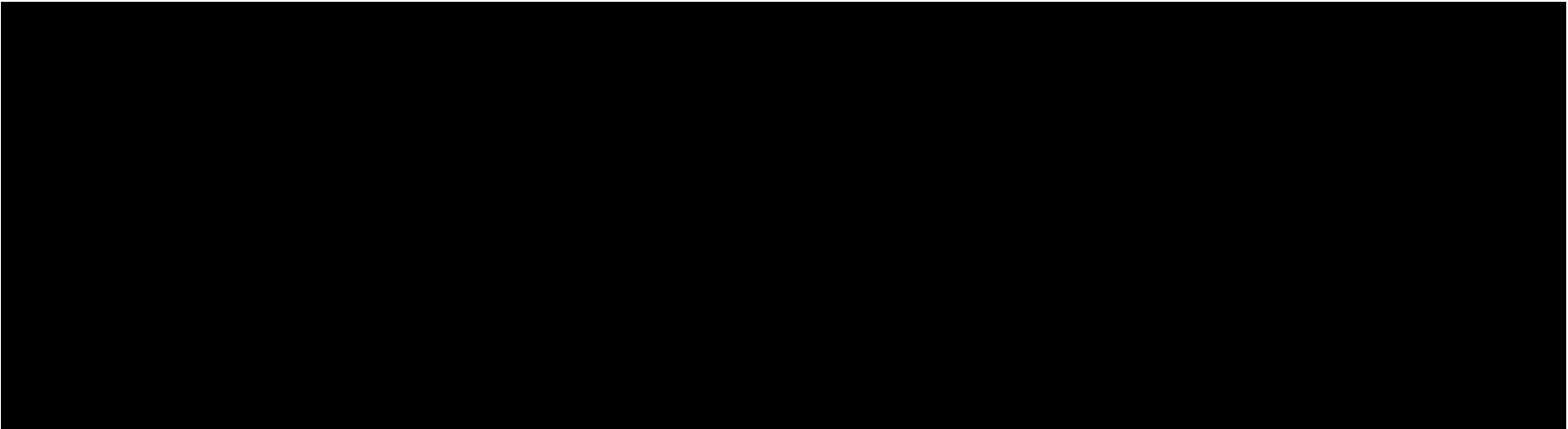
Notes:

- (1) GOOG-CABR-05886428 at tab "Unique Clients Distribution per "
- (2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

UNIQUE MONTHLY CHROME CLIENTS - IOS - 2021

Schedule 19 7



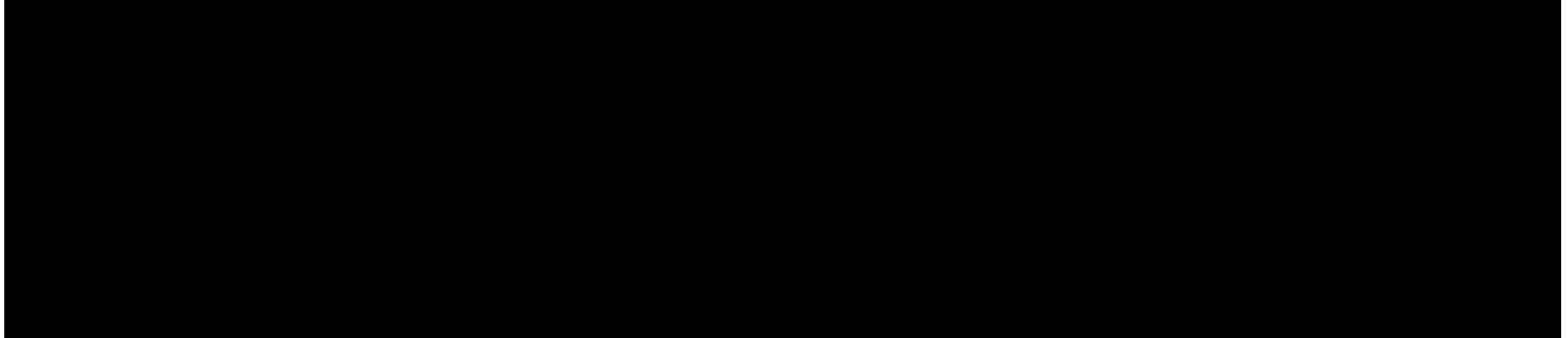
Notes:

- (1) GOOG-CABR-05886430 at tab "Unique Clients Distribution per "
- (2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

TOTAL PRIVATE BROWSING PAGELOADS - 2021

Schedule 20.1



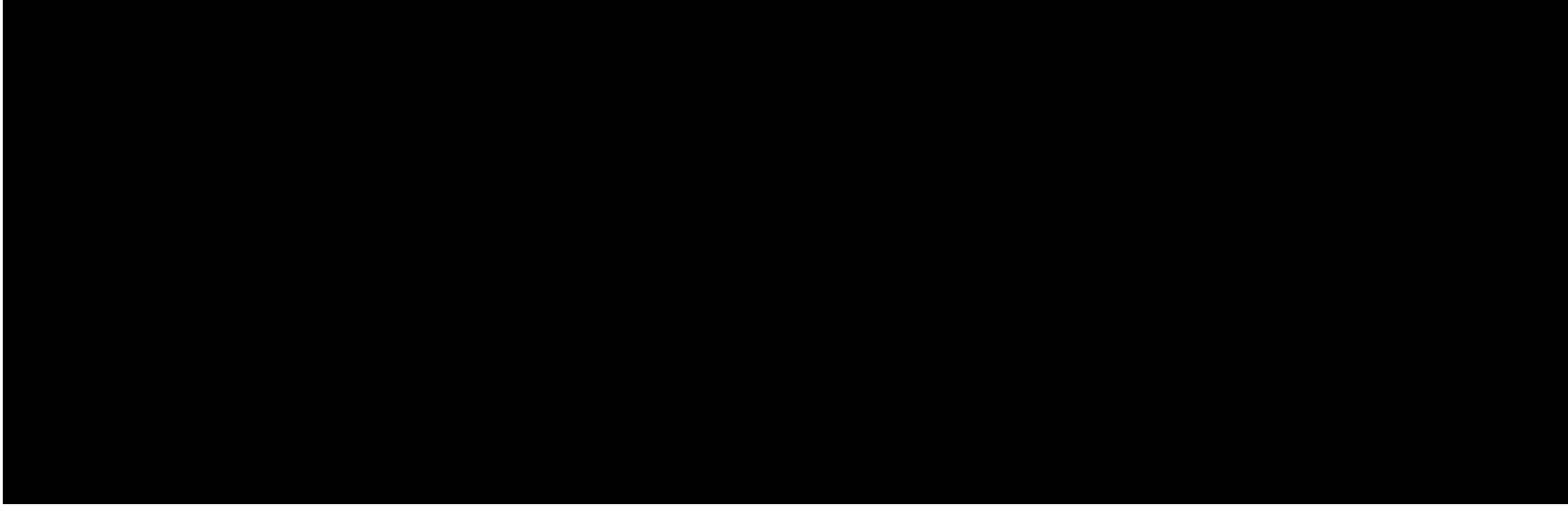
Notes:

- (1) Schedule 20.2.
- (2) Schedule 20.3.
- (3) Schedule 20.4.
- (4) Schedule 20.5.
- (5) Schedule 20.6.
- (6) Schedule 20.7.
- (7) Schedule 17.7.
- (8) Schedule 22.1.

Brown et al v. Google LLC et al.

PAGELOADS - ANDROID

Schedule 20 2



Notes:

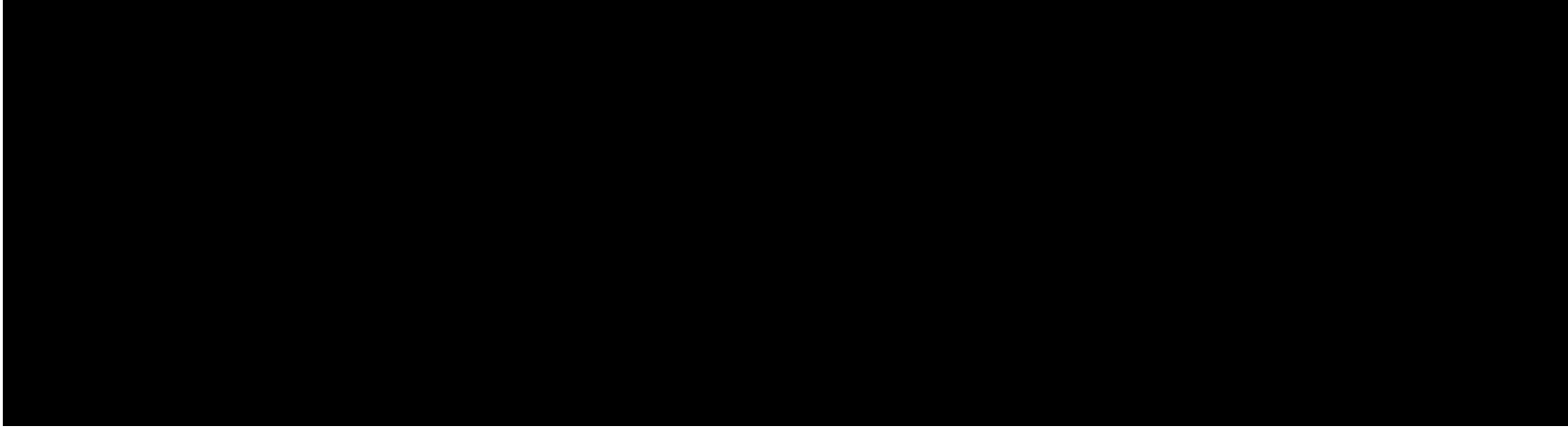
(1) GOOG-CABR-05886428 at tab "Mainframe Page Loads Distributi "

(2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

PAGELOADS - IOS

Schedule 20.3



Notes:

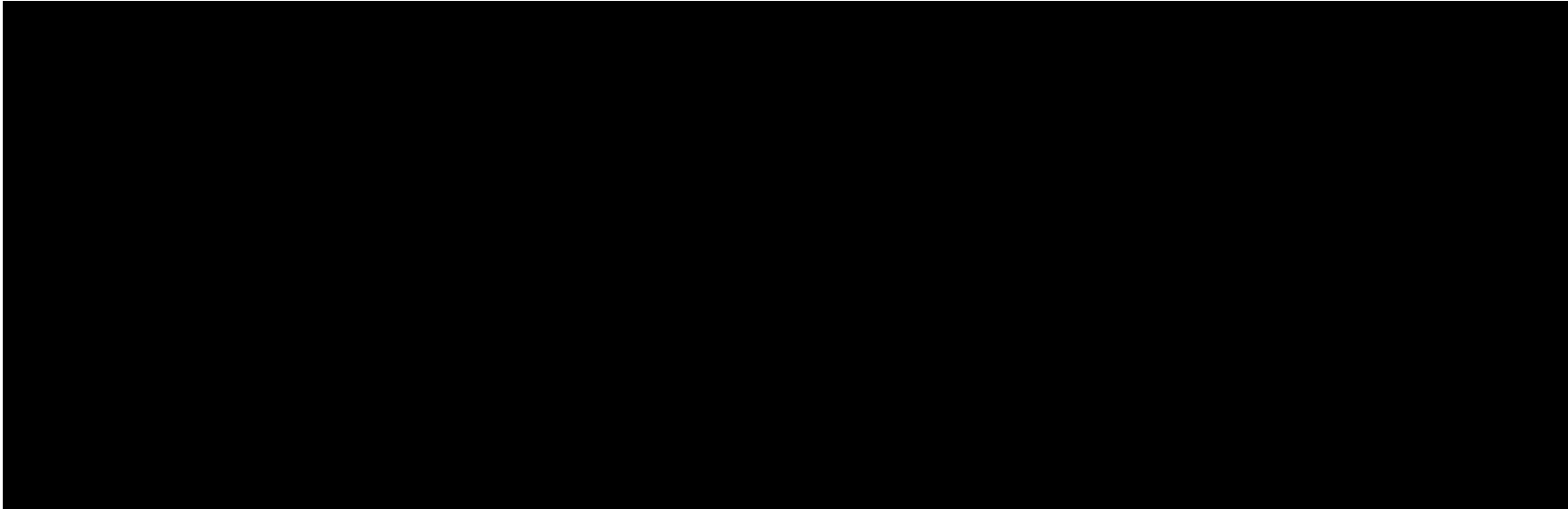
(1) GOOG-CABR-05886430 at tab "Mainframe Page Loads Distributi "

(2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

PAGELOADS - MACOS

Schedule 20 4



Notes:

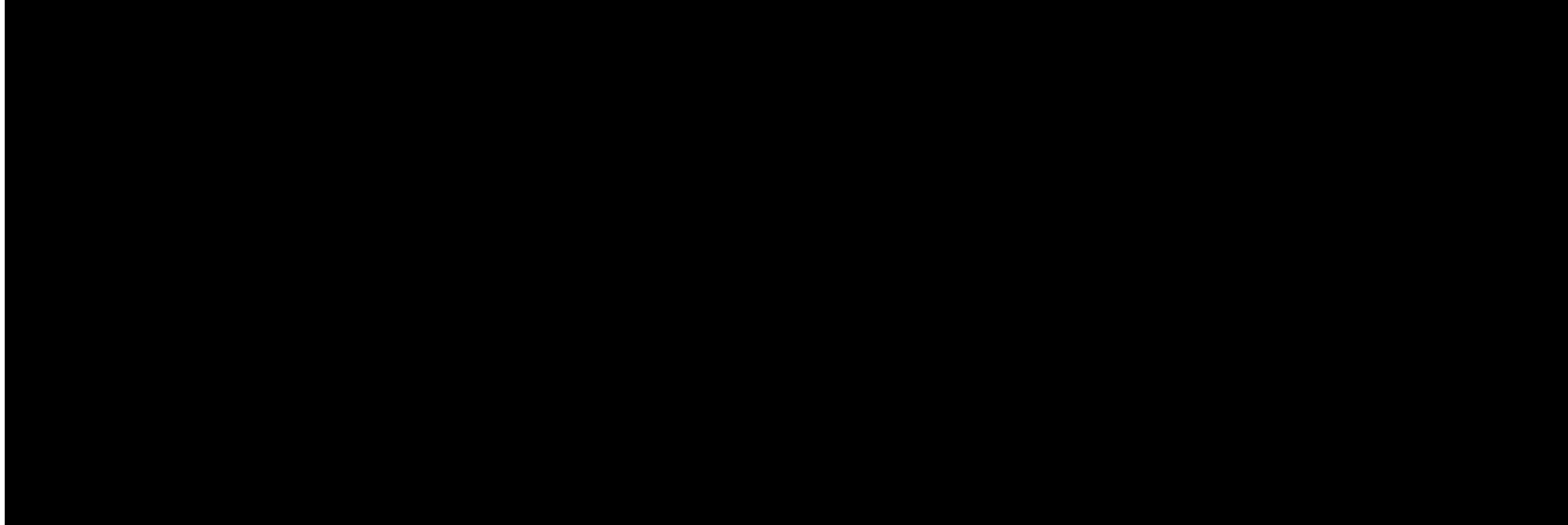
(1) GOOG-CABR-05886432 at tab "Mainframe Page Loads Distributi "

(2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

PAGELOADS - WINDOWS

Schedule 20 5



Notes:

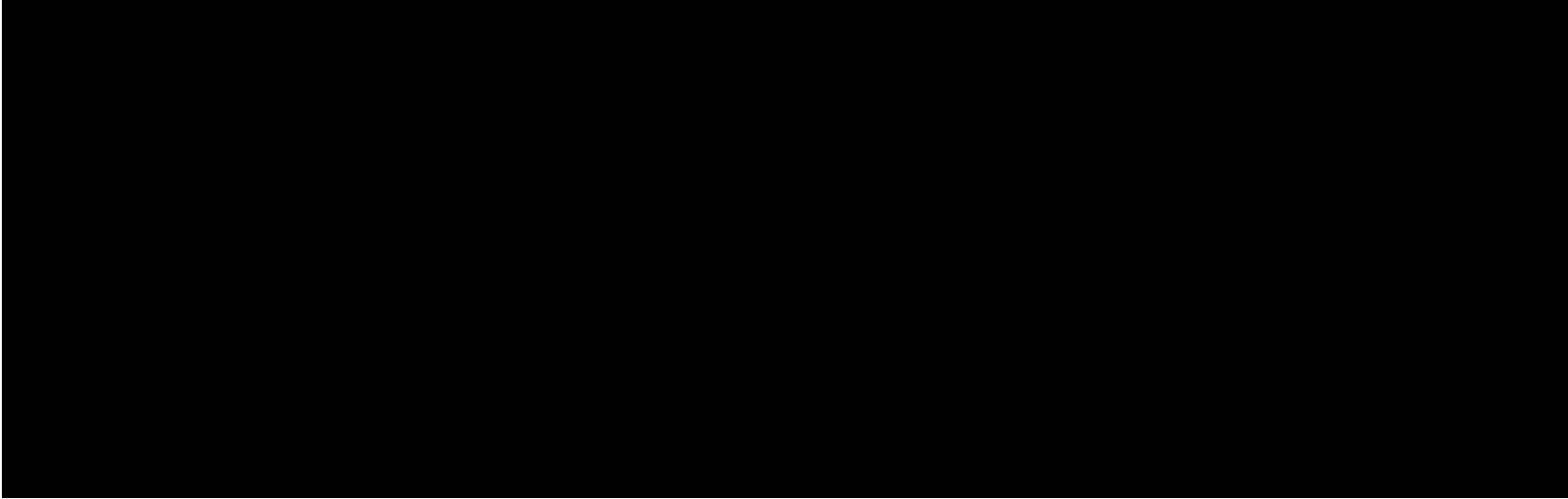
(1) GOOG-CABR-05886433 at tab "Mainframe Page Loads Distributi "

(2) GOOG-CABR-04486714 at tab "Mainframe Page Loads Distributi "

Brown et al v. Google LLC et al.

PAGELOADS - CHROMEOS

Schedule 20 6



Note:

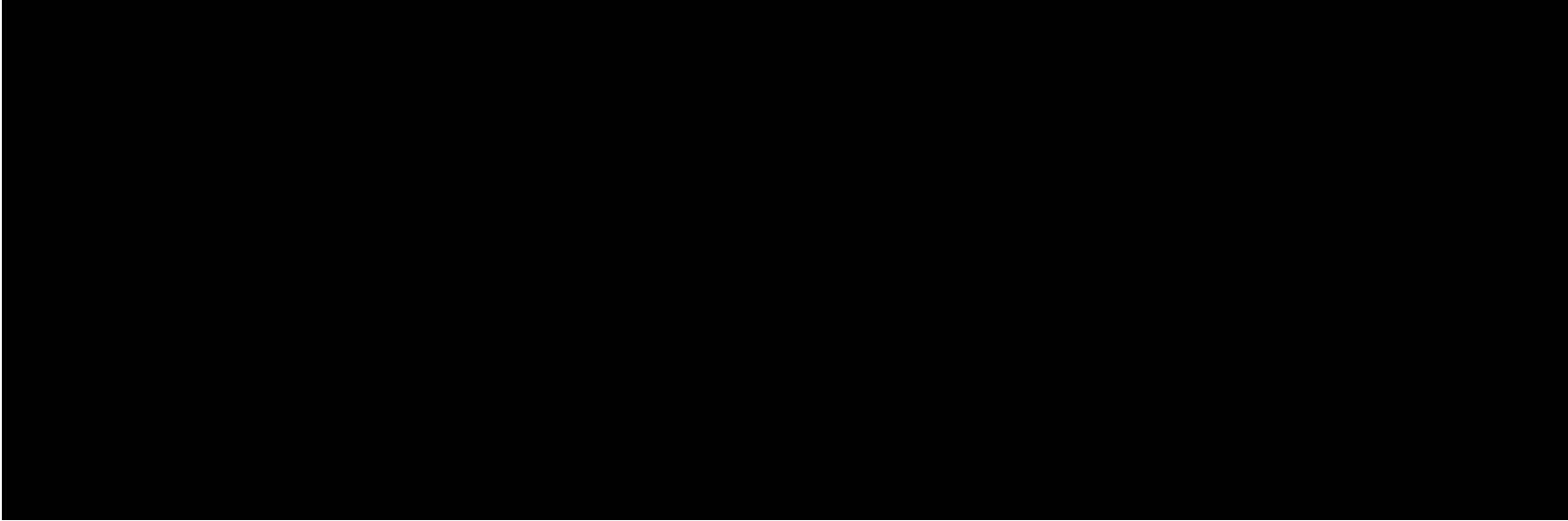
(1) GOOG-CABR-05886429 at tab "Mainframe Page Loads Distributi "

(2) I have scaled the ChromeOS assuming a ratio based on an email from Google's Counsel to Plaintiffs' counsel See Email from Tracey Gao re: "Brown v Google – UMA data," April 5, 2022

Brown et al v. Google LLC et al.

PAGELOADS - LINUX

Schedule 20 7



Notes:

(1) GOOG-CABR-05886431 at tab "Mainframe Page Loads Distributi "

(2) Scaling data has not been produced for Linux, so I have assumed no scaling for this operating system

Brown et al v. Google LLC et al.

GOOGLE ACCOUNT USE AMONG PRIVATE BROWSING USERS - BY BROWSER

Schedule 21.1

	Total Number of Respondents Who Used Private Browsing Mode	Number of Respondents Who Used Private Browsing Mode and Had a Google Account	Google Account Use Among Private Browsing Mode Users
Chrome	534	489	91.57%
Safari	294	222	75.51%
Edge / Internet Explorer	177	167	94.35%

Note:

Expert Report of Mark Keegan, April 15, 2022, Table 7.

Brown et al v. Google LLC et al.

ADJUSTED PRIVATE BROWSING USAGE RATES AND UNIQUE CHROME CLIENTS SHARE OF TOTAL

Schedule 22.1

	Share of Browser Users Who Used Private Browsing Mode	Share of Browser Users Who Use Private Browsing Relative to Chrome Private Browsing Users	Private Browsing Usage Rate	Adjusted Private Browsing Unique Chrome Clients Share of Total (5)
Chrome	64.11% (1)	100.00%	██████	██████
Adjusted				
Safari	59.15% (1)	92.28%	██████	██████
Edge / Internet Explorer	40.32% (1)	62.89%	██████	██████

Notes:

(1) Schedule 22 2.

(2) Schedule 11 1.

(3) Schedule 18 1.

(4) Calculated as 92.28% * ██████.

(5) Calculated as 92.28% * ██████

(6) Calculated as 62.89% * ██████

(7) Calculated as 62.89% * ██████

Brown et al v. Google LLC et al.

SHARE OF BROWSER USERS WHO USED PRIVATE BROWSING MODE

Schedule 22.2

	<u>Total Browser Users</u>	<u>Browser Users Who Used Private Browsing Mode</u>	<u>Share of Browser Users Who Used Private Browsing Mode</u>
Chrome	833	534	64.11%
Safari	497	294	59.15%
Edge / Internet Explorer	439	177	40.32%

Note:

Expert Report of Mark Keegan, April 15, 2022, Table 4.

Brown et al v. Google LLC et al.

SHARE OF BROWSER USERS WHO USED MULTIPLE BROWSERS

Schedule 23.1

	<u>Total Browser Users</u>	<u>Total Browser Users Who Also Used Other Browsers</u>	<u>Share of Browser Users Who Used Multiple Browsers</u>
Chrome	833	506	60.74%
Safari	497	369	74.25%
Edge / Internet Explorer	439	397	90.43%

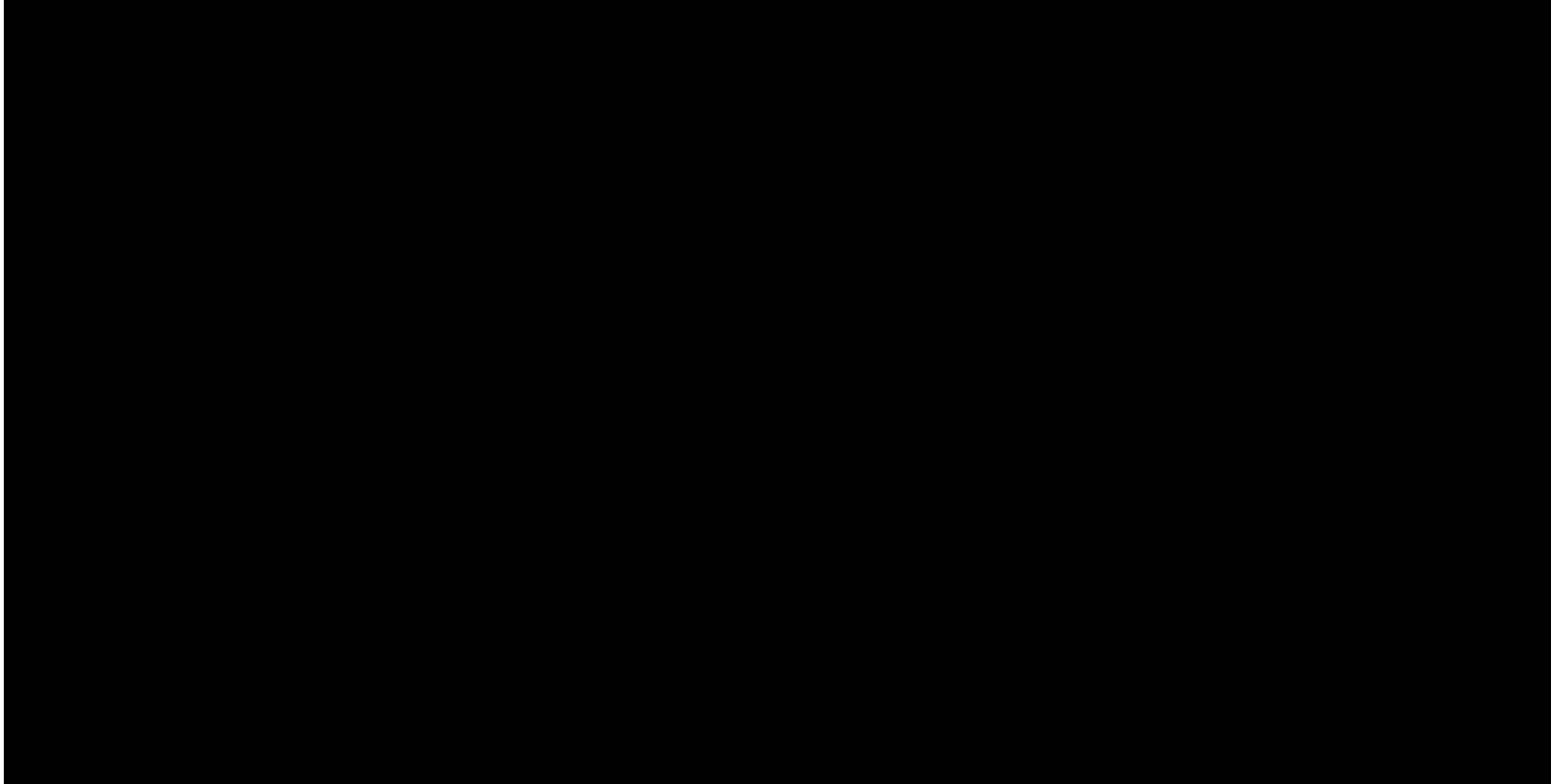
Note:

Expert Report of Mark Keegan, April 15, 2022, Table 3.

Brown et al v. Google LLC et al.

ESTIMATED PRIVATE BROWSING PAGEDLOADS

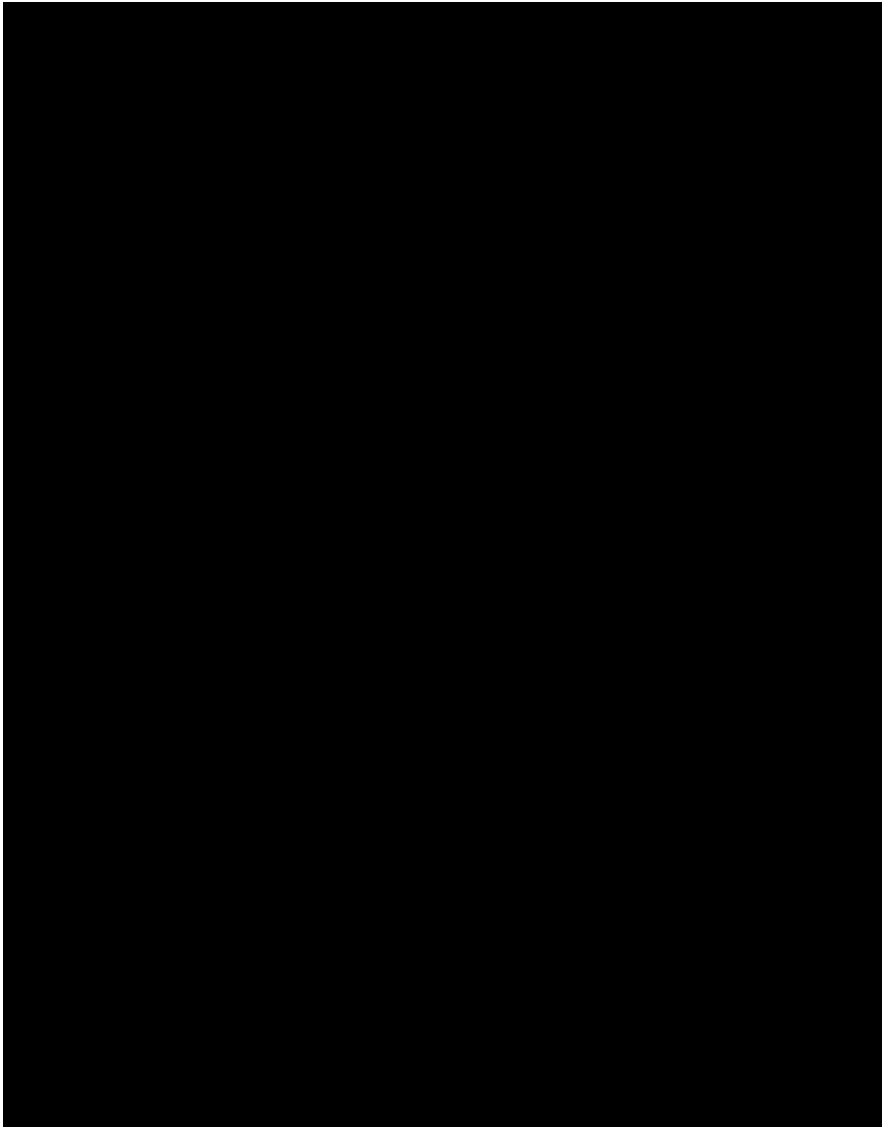
Schedule 24 1



Notes:

- (1) Schedule 24 2
- (2) GOOG-BRWN-00490767 - 936 at 772 Source notes, "Analytics or Analytics 360 is installed on 70%+ of the top 1M websites "
- (3) Schedule 21 1
- (4) GOOG-BRWN-00035610-622 at 617 See Report Section 9

B own et al v Google LLC et al
PRIVATE BROWSING PAGELOADS BY BROWSER
Schedule 2 .2



Notes.
(1) 2016 per Schedule 17.1 2017 per Schedule 17.2 2018 per Schedule 17.3 2019 per Schedule 17. 2020 per Schedule 17.5 2021 per Schedule 17.6.
(2) Schedule 2 .3.

Brown et al v. Google LLC et al.

PRIVATE BROWSING PAGELOADS PER UMPBI

Schedule 24 3



Notes:

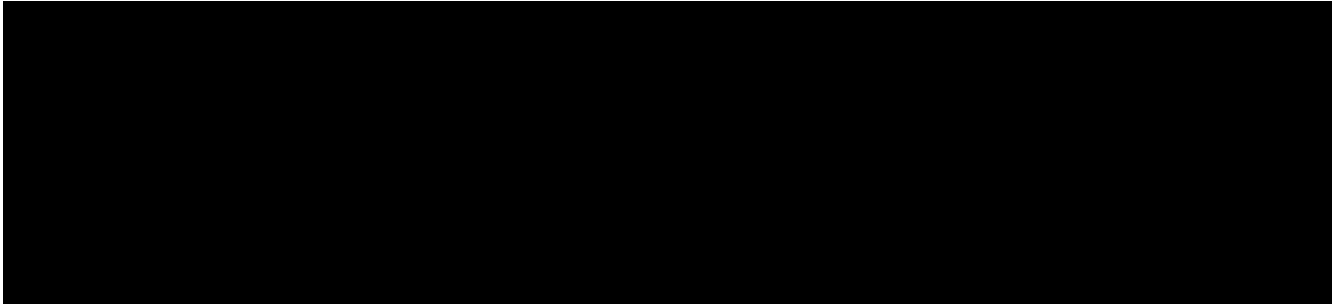
(1) Schedule 17 6

(2) Schedule 20 1

Brown et al v. Google LLC et al.

ESTIMATED UNIQUE PRIVATE BROWSING INSTANCES THROUGH 2021

Schedule 25 1



Notes:

(1) Schedule 25 2

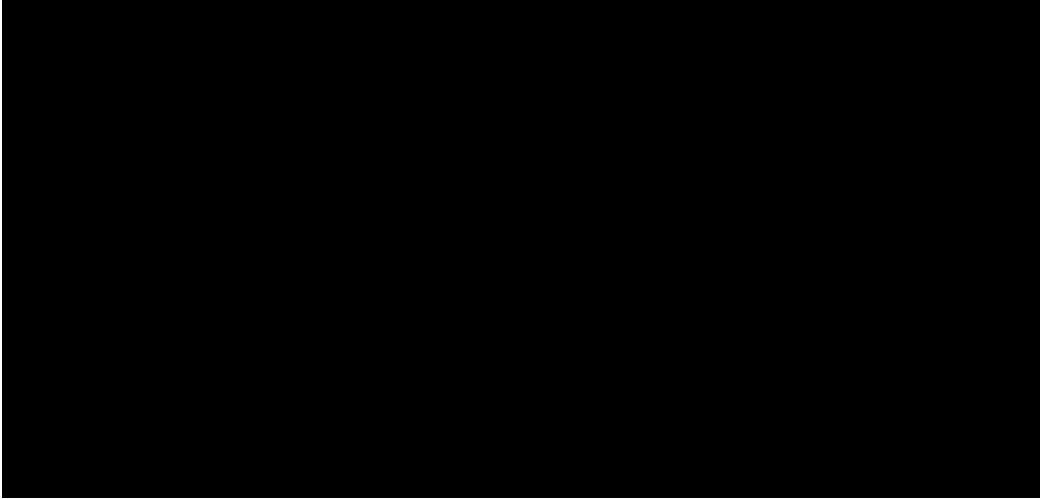
(2) Schedule 21 1

(3) GOOG-BRWN-00035610-622 at 617; Report Section 9

Brown et al v. Google LLC et al.

PEAK UMPBI - 2021

Schedule 25.2



Notes:

- (1) Schedule 17.6.
- (2) Report Section 9.

Brown et al v. Google LLC et al.

ESTIMATED PRIVATE BROWSING USERS IN THE UNITED STATES PER BROWSER

Schedule 26.1

	Chrome	Safari	Edge / IE	Total
Total Internet Users in the U S - 2021 (1)	302,280,000	302,280,000	302,280,000	N/A
U S Browser Market Share - 2021 (2)	48.46%	36.41%	7.01%	N/A
Internet Users in the U S Per Browser	146,494,964	110,065,186	21,197,385	277,757,535
Private Browsing Mode Users (3)	64.11%	59.15%	40.32%	N/A
Private Browsing Mode Users in the U S	93,911,538	65,108,983	8,546,554	167,567,075
Google Account Use Among Private Browsing Mode Users (4)	91.57%	75.51%	94.35%	N/A
Adjustment for Signed Out Private Browsing (5)	95.00%	95.00%	95.00%	N/A
Estimated Private Browsing Mode Users in the U S Per Browser	81,697,762	46,705,730	7,660,513	136,064,004

Notes:

(1) "Number of internet users in the United States from 2010 to 2025" per Statista at <https://www.statista.com/statistics/325645/usa-number-of-internet-users/#professional> (accessed April 18, 2022); Report Section 9

(2) Schedule 14.12

(3) Schedule 22.2

(4) Schedule 21.1

(5) GOOG-BRWN-00035610-622 at 617 Report Section 9

Brown et al v. Google LLC et al.

TRAFFIC SHARE - SUMMARY - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE

Schedule 27.1

	2016	2017	2018	2019	2020	2021
<i>Traffic Share</i>						
Chrome - Browser Only (1)	49.69%	49.69%	49.69%	49.69%	49.69%	49.69%
Safari - Browser Only (2)	14.26%	17.44%	18.32%	19.30%	21.57%	22.47%
Edge / IE - Browser Only (3)	12.13%	9.39%	8.74%	8.02%	6.78%	6.49%
Other - Browser Only (4)	10.14%	8.66%	7.80%	7.11%	6.55%	6.05%
Total Apps (5)	13.79%	14.82%	15.45%	15.88%	15.40%	15.29%
Total Traffic Share	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:

- (1) Schedule 27.12.
- (2) Schedule 27.7.
- (3) Schedule 27.5.
- (4) Schedule 27.3.
- (5) Schedule 27.2.

Brown et al v. Google LLC et al.

TRAFFIC SHARE - EXCLUDED AS RELATED TO APPS - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.2

	2016	2017	2018	2019	2020	2021
<i>Traffic Share of Mobile Apps Related to</i>						
Chrome (1)	2.31%	2.31%	2.31%	2.31%	2.31%	2.31%
Safari (2)	8.93%	10.57%	11.43%	11.79%	11.59%	11.44%
Edge / IE (3)	0.20%	0.07%	0.03%	0.02%	0.03%	0.04%
Other (4)	2.34%	1.87%	1.68%	1.76%	1.47%	1.50%
Total Apps	<u>13.79%</u>	<u>14.82%</u>	<u>15.45%</u>	<u>15.88%</u>	<u>15.40%</u>	<u>15.29%</u>

Notes:

- (1) Schedule 27 12.
- (2) Schedule 27.7.
- (3) Schedule 27 5.
- (4) Schedule 27 3.

Brown et al v. Google LLC et al.

TRAFFIC SHARE ALLOCATED BY PLATFORM - OTHER - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27 3

		<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Allocation by Platform:</i>							
Other - Mobile (1)	[a]	41 69%	39 53%	39 30%	44 10%	40 75%	44 25%
Other - Desktop (1)	[b]	58 31%	60 47%	60 70%	55 90%	59 25%	55 75%
Other - Total		100 00%	100 00%	100 00%	100 00%	100 00%	100 00%
Traffic Share - Other Browsers and Related Apps (2)	[c]	12 48%	10 53%	9 48%	8 87%	8 02%	7 55%
<i>Traffic Shares Allocated by Platform:</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	5 20%	4 16%	3 73%	3 91%	3 27%	3 34%
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Mobile - Non-Apps	[f] = [d] * [e]	2 86%	2 29%	2 05%	2 15%	1 80%	1 84%
Desktop	[g] = [b] * [c]	7 28%	6 37%	5 75%	4 96%	4 75%	4 21%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	10 14%	8 66%	7 80%	7 11%	6 55%	6 05%
Mobile - App	[i] = [d] - [f]	2 34%	1 87%	1 68%	1 76%	1 47%	1 50%

Notes:

(1) Schedule 27 4

(2) Schedule 27 11

(3) GOOG-CABR-04611594 - 625 at 606

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - OTHER BROWSERS - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.4

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Market Share</i>						
Other Browsers - Mobile (1)	11.34%	8.99%	7.25%	7.84%	6.73%	6.65%
Other Browsers - Desktop (1)	<u>15.86%</u>	<u>13.75%</u>	<u>11.20%</u>	<u>9.94%</u>	<u>9.78%</u>	<u>8.39%</u>
Other Browsers - Combined	<u>27.19%</u>	<u>22.74%</u>	<u>18.45%</u>	<u>17.78%</u>	<u>16.51%</u>	<u>15.04%</u>
<i>Allocation by Platform</i>						
Other Browsers - Mobile (2)	<u>41.69%</u>	<u>39.53%</u>	<u>39.30%</u>	<u>44.10%</u>	<u>40.75%</u>	<u>44.25%</u>
Other Browsers - Desktop (3)	<u>58.31%</u>	<u>60.47%</u>	<u>60.70%</u>	<u>55.90%</u>	<u>59.25%</u>	<u>55.75%</u>

Note:

(1) Schedule 27.9.

(2) Calculated as (Other Browsers - Mobile) / (Other Browsers - Combined).

(3) Calculated as (Other Browsers - Desktop) / (Other Browsers - Combined).

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TRAFFIC SHARE ALLOCATED BY PLATFORM - EDGE / INTERNET EXPLORER - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.5

		2016	2017	2018	2019	2020	2021
<i>Allocation by Platform</i>							
Edge / IE - Mobile (1)	[a]	3.67%	1.57%	0.79%	0.42%	1.13%	1.31%
Edge / IE - Desktop (1)	[b]	96.33%	98.43%	99.21%	99.58%	98.87%	98.69%
Edge / IE - Total		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Traffic Share - Edge / IE Browsers and Related Apps (2)	[c]	12.33%	9.46%	8.77%	8.04%	6.82%	6.53%
<i>Traffic Share Allocated by Platform</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	0.45%	0.15%	0.07%	0.03%	0.08%	0.09%
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Mobile, Non-Apps	[f] = [d] * [e]	0.25%	0.08%	0.04%	0.02%	0.04%	0.05%
Desktop	[g] = [b] * [c]	11.88%	9.31%	8.70%	8.00%	6.74%	6.45%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	12.13%	9.39%	8.74%	8.02%	6.78%	6.49%
Mobile - App	[i] = [d] - [f]	0.20%	0.07%	0.03%	0.02%	0.03%	0.04%

Notes:

(1) Schedule 27.6.

(2) Schedule 27 11.

(3) GOOG-CABR-04611594 - 625 at 606.

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - EDGE / INTERNET EXPLORER - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.6

	2016	2017	2018	2019	2020	2021
<i>Market Share</i>						
Edge / IE - Mobile (1)	0.90%	0.33%	0.14%	0.07%	0.18%	0.19%
Edge / IE - Desktop (1)	23.74%	20.59%	18.00%	17.19%	15.32%	13.98%
Edge / IE - Combined	24.65%	20.92%	18.15%	17.27%	15.50%	14.16%
<i>Allocation by Platform</i>						
Edge / IE - Mobile (2)	3.67%	1.57%	0.79%	0.42%	1.13%	1.31%
Edge / IE - Desktop (3)	96.33%	98.43%	99.21%	99.58%	98.87%	98.69%

Notes:

(1) Schedule 27.9.

(2) Calculated as (Edge / IE - Mobile) / (Edge / IE - Combined).

(3) Calculated as (Edge / IE - Desktop) / (Edge / IE - Combined).

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TRAFFIC SHARE ALLOCATED BY PLATFORM - SAFARI - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.7

		<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Allocation by Platform</i>							
Safari - Mobile (1)	[a]	85.62%	83.84%	85.37%	84.28%	77.65%	74.97%
Safari - Desktop (1)	[b]	14.38%	16.16%	14.63%	15.72%	22.35%	25.03%
Safari - Total		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Traffic Share - Safari Browser and Related Apps (2)	[c]	23.19%	28.01%	29.75%	31.09%	33.16%	33.92%
<i>Traffic Share Allocated by Platform</i>							
Mobile (Including Related Apps)	[d] = [a] * [c]	19.86%	23.49%	25.40%	26.20%	25.75%	25.43%
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Mobile, Non-Apps	[f] = [d] * [e]	10.92%	12.92%	13.97%	14.41%	14.16%	13.98%
Desktop	[g] = [b] * [c]	3.33%	4.53%	4.35%	4.89%	7.41%	8.49%
Browser Only (Desktop & Mobile)	[h] = [f] + [g]	14.26%	17.44%	18.32%	19.30%	21.57%	22.47%
Mobile - Apps	[i] = [d] - [f]	8.93%	10.57%	11.43%	11.79%	11.59%	11.44%

Notes:

(1) Schedule 27.8.

(2) Schedule 27 11.

(3) GOOG-CABR-04611594 - 625 at 606.

Brown et al v. Google LLC et al.

ALLOCATION BY PLATFORM - SAFARI - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27.8

	2016	2017	2018	2019	2020	2021
<i>Market Share</i>						
Safari - Mobile (1)	51.26%	51.58%	52.13%	52.01%	55.83%	54.54%
Safari - Desktop (1)	8.61%	9.94%	8.94%	9.70%	16.07%	18.21%
Safari - Combined	59.87%	61.52%	61.06%	61.71%	71.91%	72.75%
<i>Allocation by Platform</i>						
Safari - Mobile (2)	85.62%	83.84%	85.37%	84.28%	77.65%	74.97%
Safari - Desktop (3)	14.38%	16.16%	14.63%	15.72%	22.35%	25.03%

Notes:

(1) Schedule 27.9.

(2) Calculated as (Safari - Mobile) / (Safari - Combined).

(3) Calculated as (Safari - Desktop) / (Safari - Combined).

Brown et al v. Google LLC et al.

U.S. MARKET SHARE SUMMARY BY BROWSER - MOBILE AND DESKTOP - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE

Schedule 27.9

	2016	2017	2018	2019	2020	2021
<i>Mobile:</i>						
Chrome (1)	36.49%	39.10%	40.47%	40.07%	37.26%	38.62%
Safari (1)	51.26%	51.58%	52.13%	52.01%	55.83%	54.54%
Edge / IE (2)	0.90%	0.33%	0.14%	0.07%	0.18%	0.19%
Other (1)	11.34%	8.99%	7.25%	7.84%	6.73%	6.65%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<i>Desktop:</i>						
Chrome (3)	51.79%	55.72%	61.86%	63.16%	58.83%	59.43%
Safari (3)	8.61%	9.94%	8.94%	9.70%	16.07%	18.21%
Edge / IE (2)	23.74%	20.59%	18.00%	17.19%	15.32%	13.98%
Other (3)	15.86%	13.75%	11.20%	9.94%	9.78%	8.39%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Notes:

(1) <https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

(2) Schedule 27.10

(3) <https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

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EDGE / INTERNET EXPLORER U.S. MARKET SHARE SUMMARY - MOBILE AND DESKTOP - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE

Schedule 27 10

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
<i>Mobile:</i>						
IEMobile (1)	0.84%	0.26%	0.11%	0.05%	0.02%	0.00%
Edge Legacy (1)	<u>0.07%</u>	<u>0.07%</u>	<u>0.04%</u>	<u>0.02%</u>	<u>0.16%</u>	<u>0.18%</u>
Edge / IE	<u><u>0.90%</u></u>	<u><u>0.33%</u></u>	<u><u>0.14%</u></u>	<u><u>0.07%</u></u>	<u><u>0.18%</u></u>	<u><u>0.19%</u></u>
<i>Desktop:</i>						
Edge Legacy (2)	4.30%	6.82%	7.55%	8.56%	4.49%	0.31%
Edge (2)	0.00%	0.00%	0.00%	0.00%	5.32%	11.66%
IE (2)	<u>19.45%</u>	<u>13.77%</u>	<u>10.45%</u>	<u>8.63%</u>	<u>5.51%</u>	<u>2.00%</u>
Edge / IE	<u><u>23.74%</u></u>	<u><u>20.59%</u></u>	<u><u>18.00%</u></u>	<u><u>17.19%</u></u>	<u><u>15.32%</u></u>	<u><u>13.98%</u></u>

Notes:

(1) <https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

(2) <https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america#monthly-201601-202112> (accessed April 8, 2022) As the data was reported on a monthly basis, I have used the average of monthly market shares for each year

Brown et al v. Google LLC et al.

U.S. TRAFFIC SHARE - SAFARI, EDGE / INTERNET EXPLORER, OTHER BROWSERS, AND RELATED APPS TRAFFIC - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27 11

	2016	2017	2018	2019	2020	2021
<i>Overall</i>						
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
<i>Safari</i>						
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Safari as a Share of Total U S Browser Market - Excluding Chrome (3)	48 31%	58 36%	61 98%	64 78%	69 09%	70 66%
Traffic Share - Safari Browser and Related Apps (4)	23 19%	28 01%	29 75%	31 09%	33 16%	33 92%
<i>Internet Explorer / Edge</i>						
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Internet Explorer / Edge as a Share of Total U S Browser Market - Excluding Chrome (3)	25 69%	19 70%	18 27%	16 74%	14 21%	13 61%
Traffic Share - Internet Explorer / Edge Browsers and Related Apps (4)	12 33%	9 46%	8 77%	8 04%	6 82%	6 53%
<i>Other Browsers and Apps</i>						
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Other Browsers as a Share of Total U S Browser Market - Excluding Chrome (3)	26 00%	21 94%	19 75%	18 48%	16 70%	15 74%
Traffic Share - Other Browsers and Related Apps (4)	12 48%	10 53%	9 48%	8 87%	8 02%	7 55%

Notes:

(1) Schedule 27 12

(2) Calculated as (Traffic Share - All Browsers and Related Apps) less (Traffic Share - Chrome and Related Apps)

(3) Schedule 14 12

(4) Calculated as (Traffic Share - All Other Browsers and Related) * (Browser as a Share of Total U S Browser Market - Excluding Chrome)

Brown et al v. Google LLC et al.

APP CHROME SHARE OF GOOGLE U.S. DISPLAY ADS TRAFFIC - FOR ALTERNATE SCENARIO BASED ON [REDACTED] CHROME TRAFFIC SHARE
Schedule 27 12



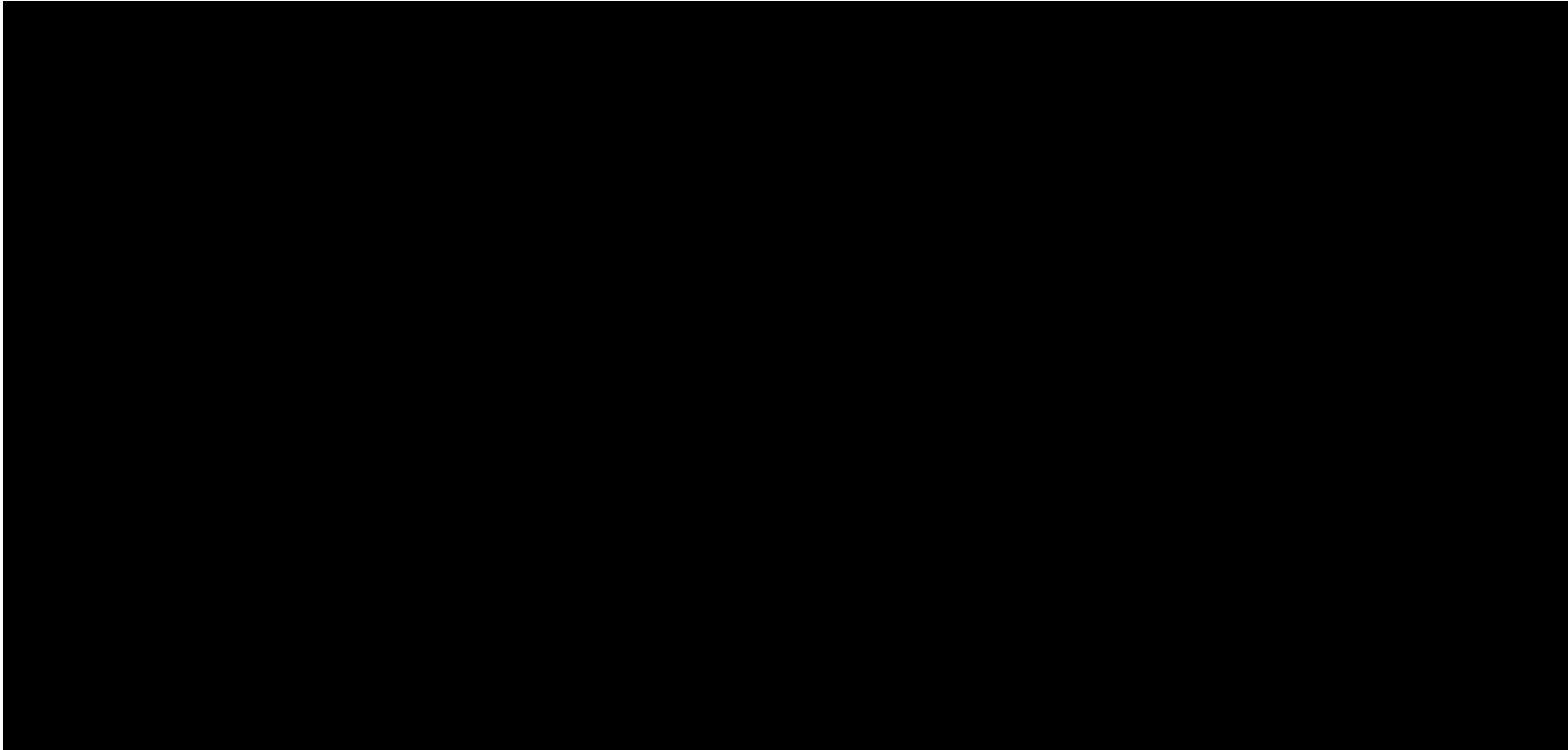
Notes:

- (1) GOOG-CABR-04324934-944 at 936
- (2) Schedule 14 14
- (3) Calculated as (Chrome Share of Google U S Display Ads Traffic) * (1 - % Change from App Adjustment)
- (4) Calculated as (Chrome Share of Google U S Display Ads Traffic) - (Standard (non-App) Chrome Share of Google U S Display Ads Traffic)

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 5.1 - ii

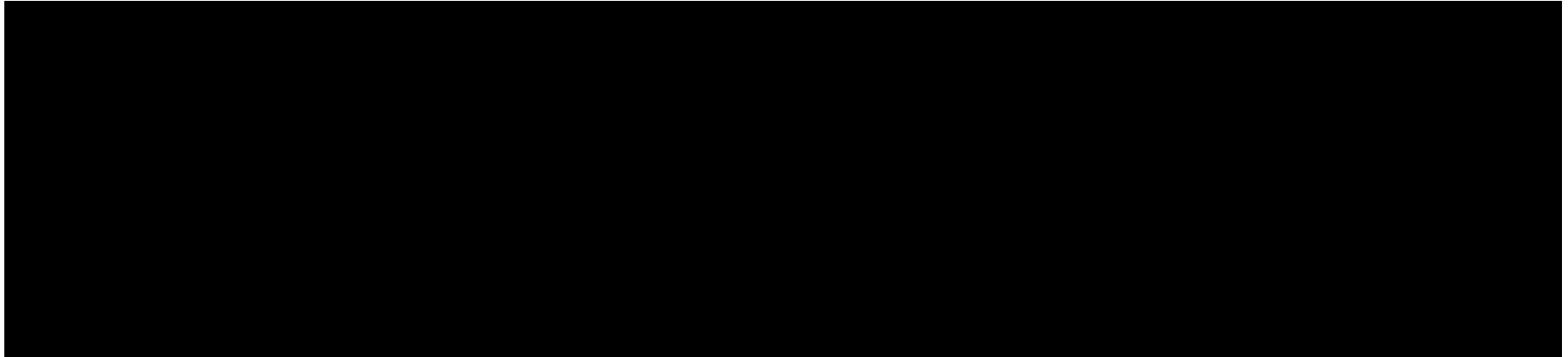


Notes:

- (1) Schedule 5.4.
- (2) Schedule 5.3 - ii.
- (3) Schedule 5.2 - ii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME
Schedule 5.2 - ii



Notes:

(1) Schedule 5.5

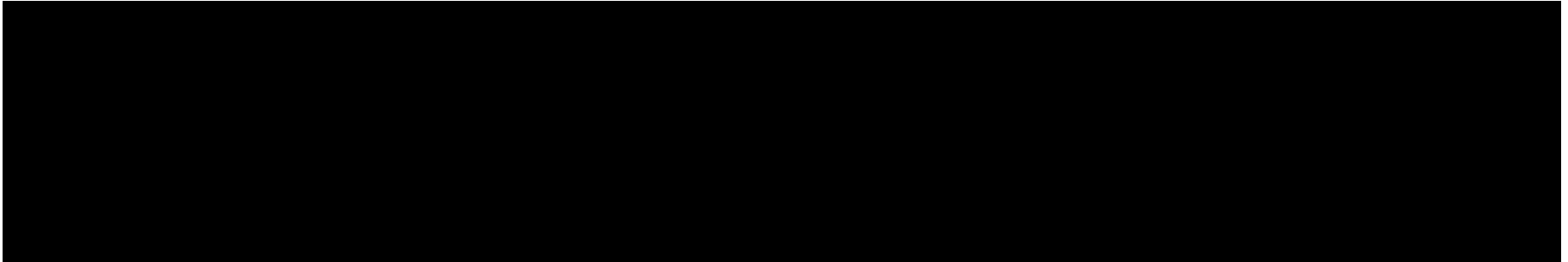
(2) Schedule 5.4

(3) GOOG-CABR-03635725, Tab: "YouTube "

(4) GOOG-CABR-04324934 at 939 I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue

Brown et al v. Google LLC et al.

YOUTUBE - INCOGNITO PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME
Schedule 5.3 - ii



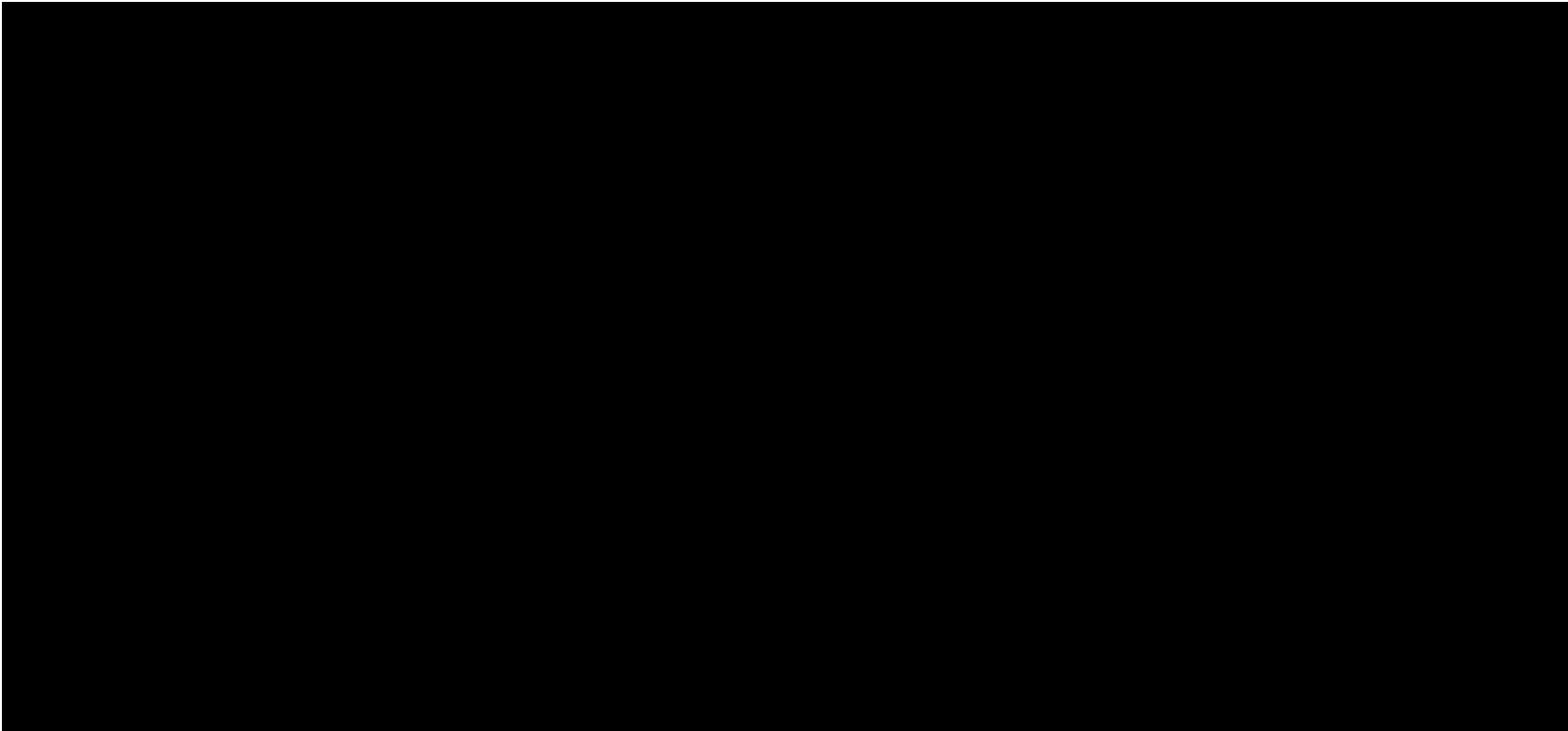
Notes:

- (1) Schedule 5.6
- (2) Schedule 5.4
- (3) GOOG-CABR-03635725, Tab: "YouTube "

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 6.1 - ii



Notes:

- (1) Schedule 6.4.
- (2) Schedule 6.3 - ii.
- (3) Schedule 6.2 - ii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE

Schedule 6.2 - ii



Notes:

(1) Schedule 6.5.

(2) Schedule 6.4.

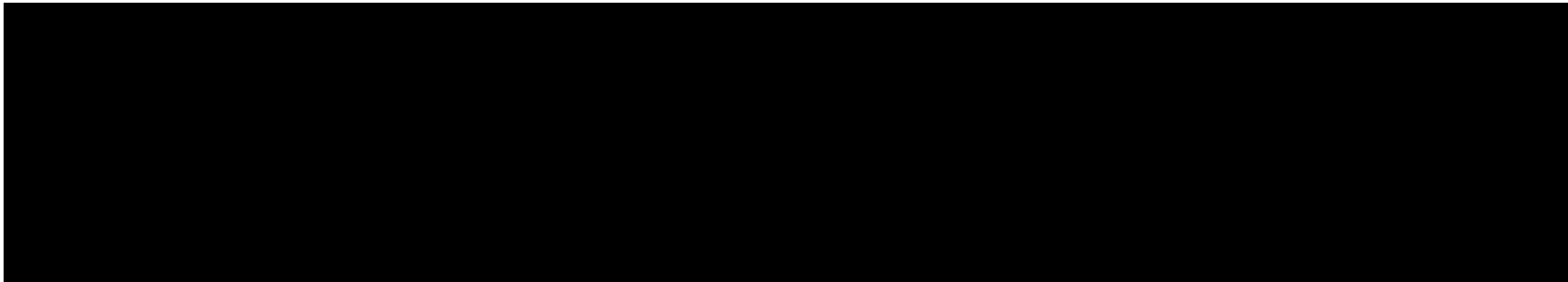
(3) GOOG-CABR-03635725, Tab "YouTube." Using Chrome data as a proxy.

(4) GOOG-CABR-04324934 at 939. Using Chrome data as a proxy. I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE

Schedule 6.3 - ii



Notes:

(1) Schedule 6.6.

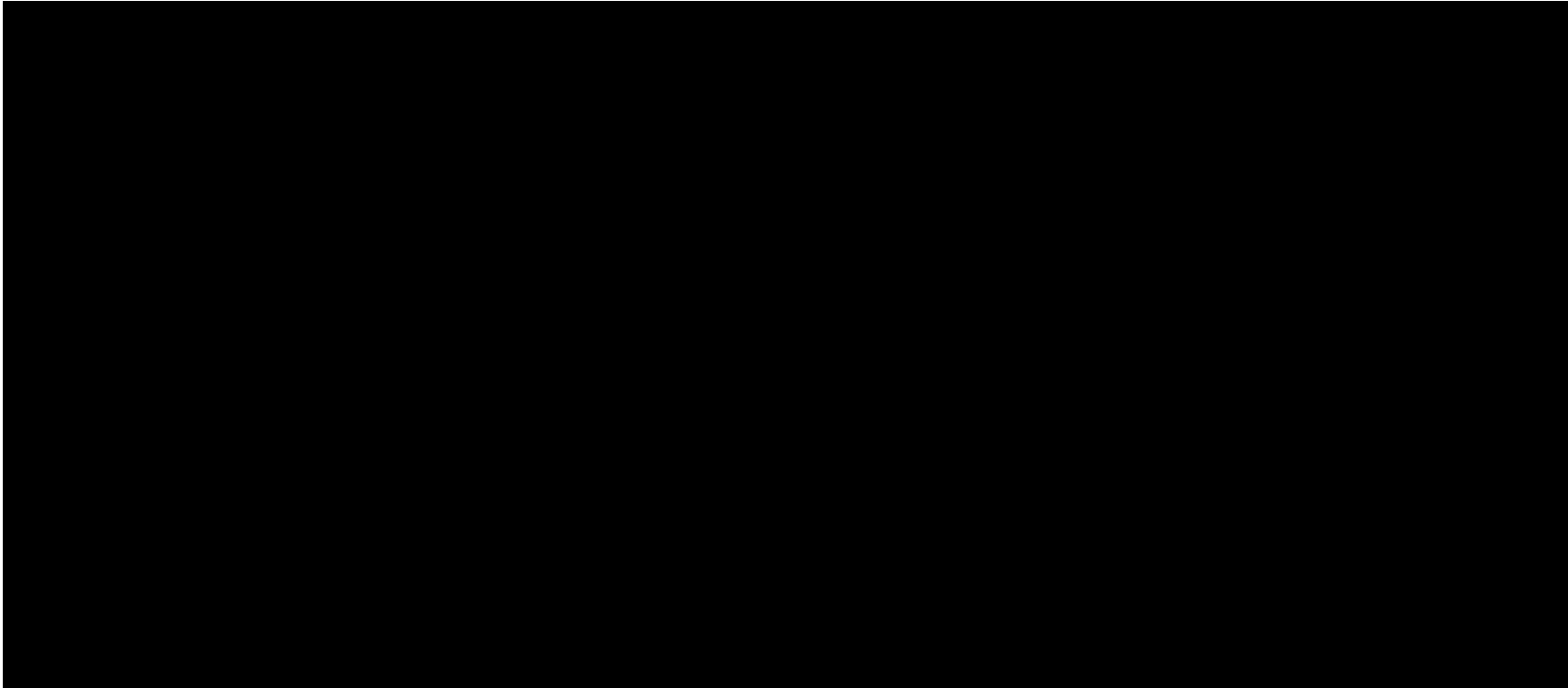
(2) Schedule 6.4.

(3) GOOG-CABR-03635725, Tab "YouTube." Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

YOUTUBE - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 7.1 - ii



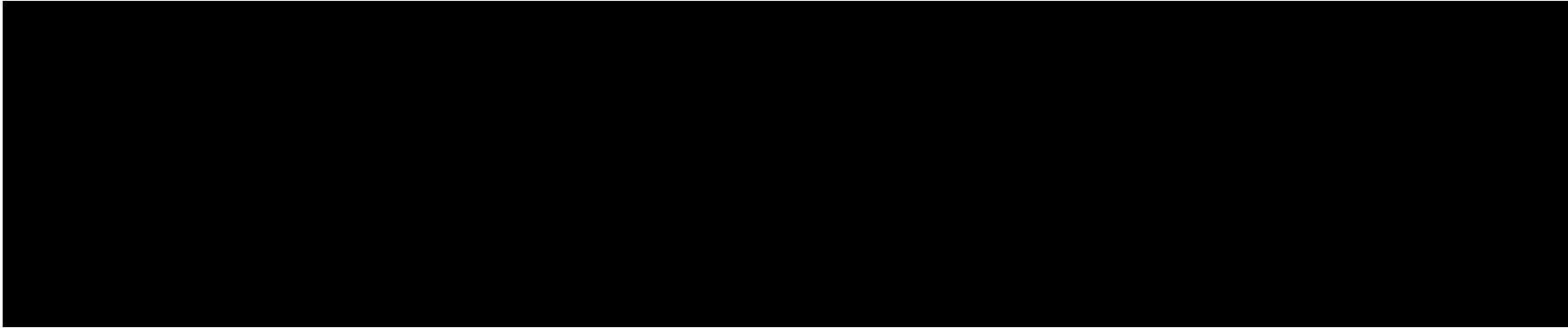
Notes:

- (1) Schedule 7.4.
- (2) Schedule 7.3 - ii.
- (3) Schedule 7.2 - ii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.3.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI

Schedule 7.2 - ii



Notes:

(1) Schedule 7.5.

(2) Schedule 7.4.

(3) GOOG-CABR-03635725, Tab "YouTube," Using Chrome data as a proxy.

(4) GOOG-CABR-04324934 at 939. Using Chrome data as a proxy. I note that the adjustment for Share of Traffic Covered Only by 3P Cookies for Traffic With 3P Cookies assumes the same apportionment factor (i.e., [REDACTED] applied in analysis of Display Ads revenue.

Brown et al v. Google LLC et al.

YOUTUBE - PRIVATE BROWSING PORTION OF GOOGLE U.S. YOUTUBE ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI

Schedule 7.3 - ii



Notes:

(1) Schedule 7.6.

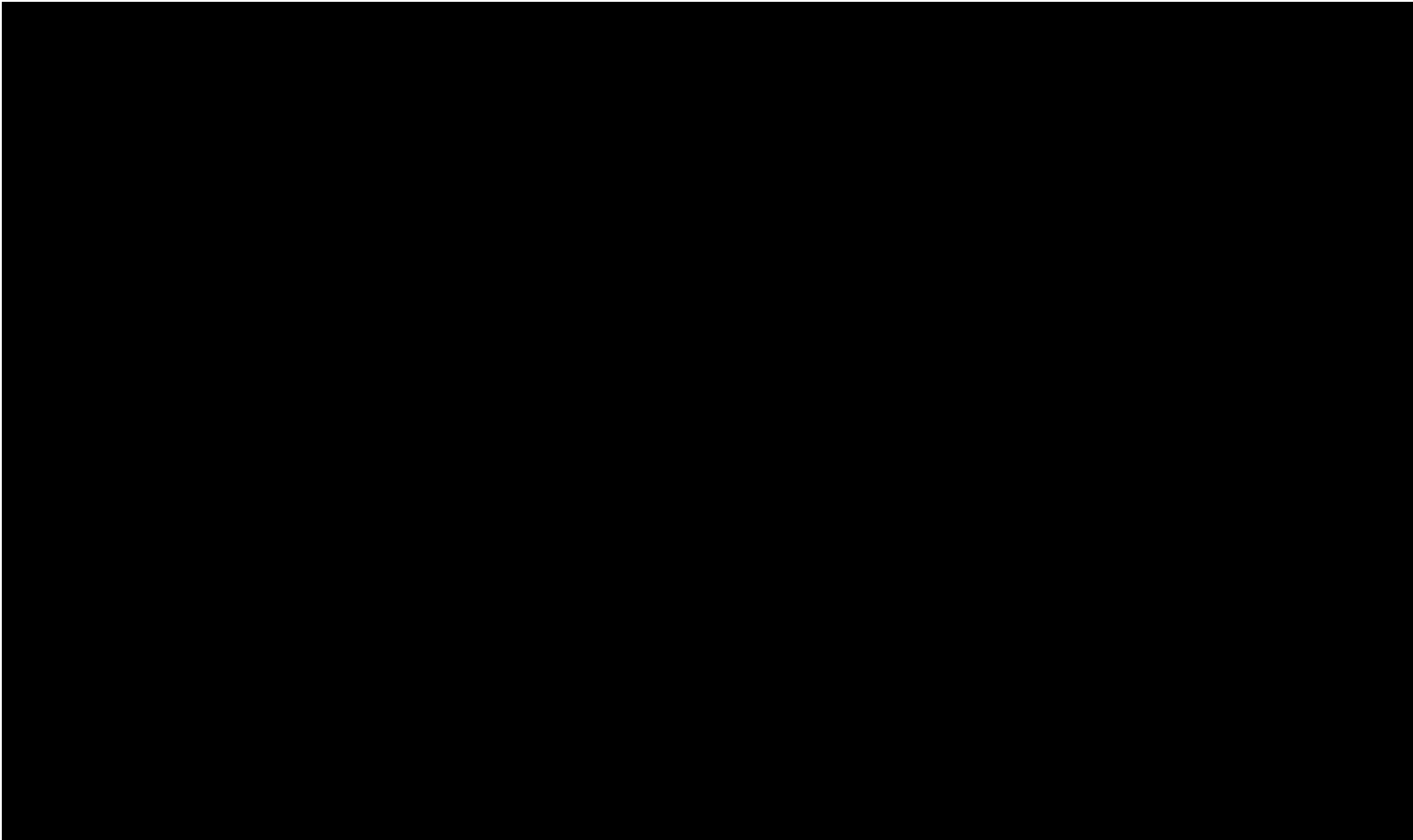
(2) Schedule 7.4.

(3) GOOG-CABR-03635725, Tab "YouTube." Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 2.1 - Aii



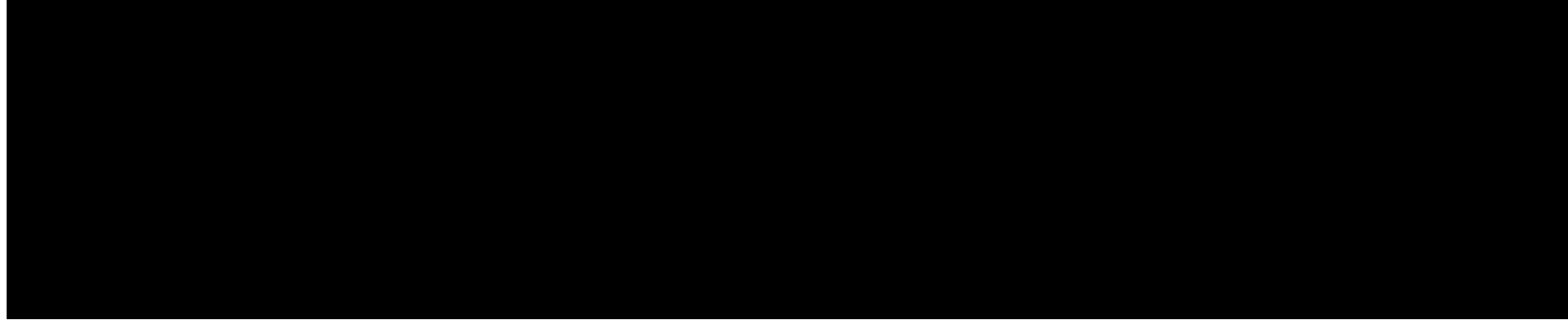
Notes:

- (1) Schedule 2.3 - Aii.
- (2) Schedule 2.4.
- (3) Schedule 2.2 - Aii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2.2 - Aii



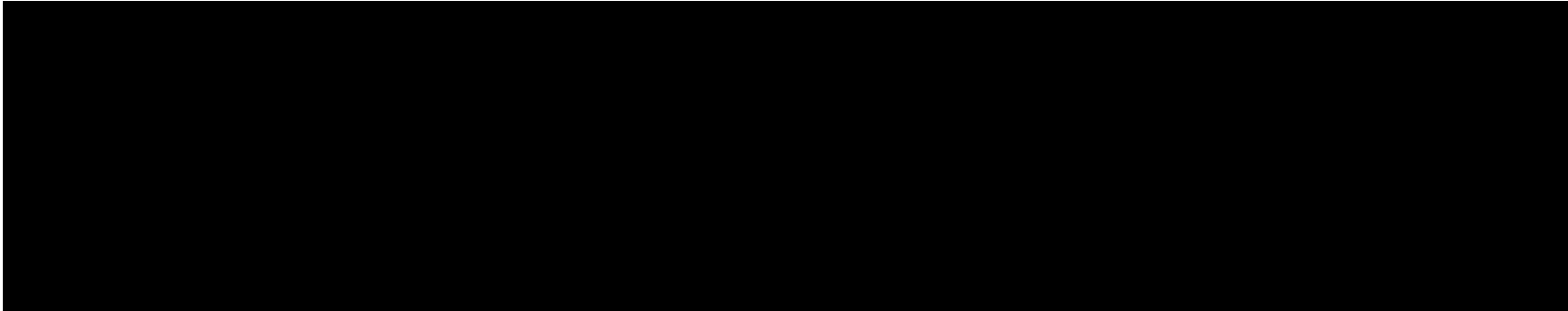
Notes:

- (1) Schedule 2.5.
- (2) Schedule 2.4.
- (3) GOOG-CABR-03635725, Tab "Display - conversion."
- (4) Schedule 2.11.

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 2.3 - Aii



Notes:

(1) Schedule 2.6

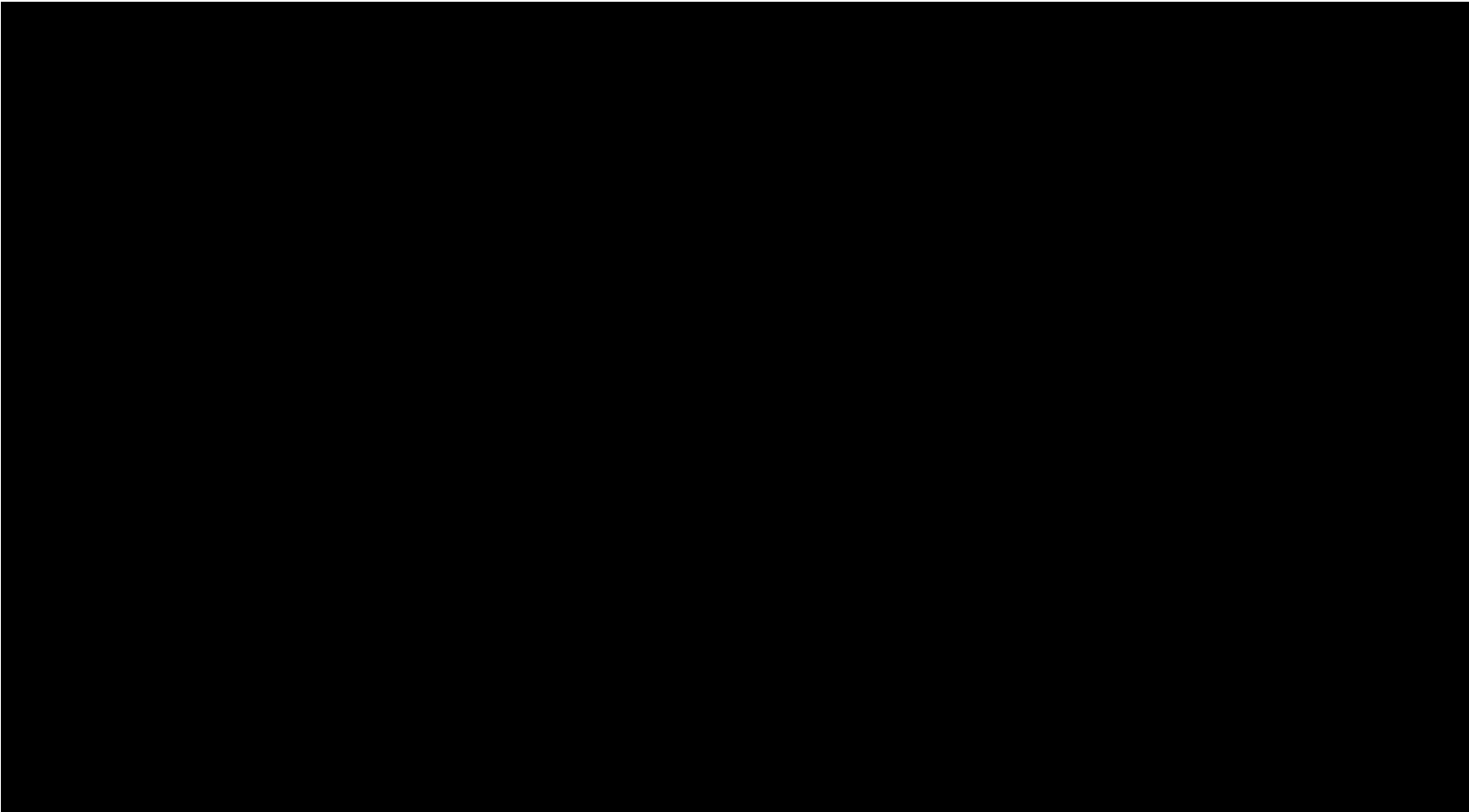
(2) Schedule 2.4

(3) GOOG-CABR-03635725, Tab: "Display - conversion " Google's determination of the autobidding share of Google Display Ads attributable to conversion tracking during 2020 and 2021 is applied as a proxy for 2016-2019

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 3.1 - Aii



Notes:

(1) Schedule 3.3 - Aii.

(2) Schedule 3.4.

(3) Schedule 3.2 - Aii.

(4) Schedule 21.1.

(5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE

Schedule 3.2 - Aii

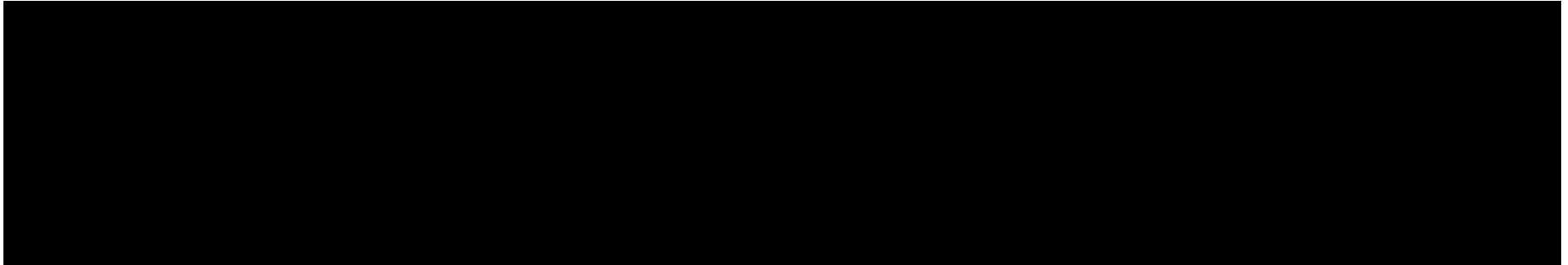


Notes:

- (1) Schedule 3.5.
- (2) Schedule 3.4.
- (3) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.
- (4) Schedule 2.11. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE
Schedule 3.3 - Aii



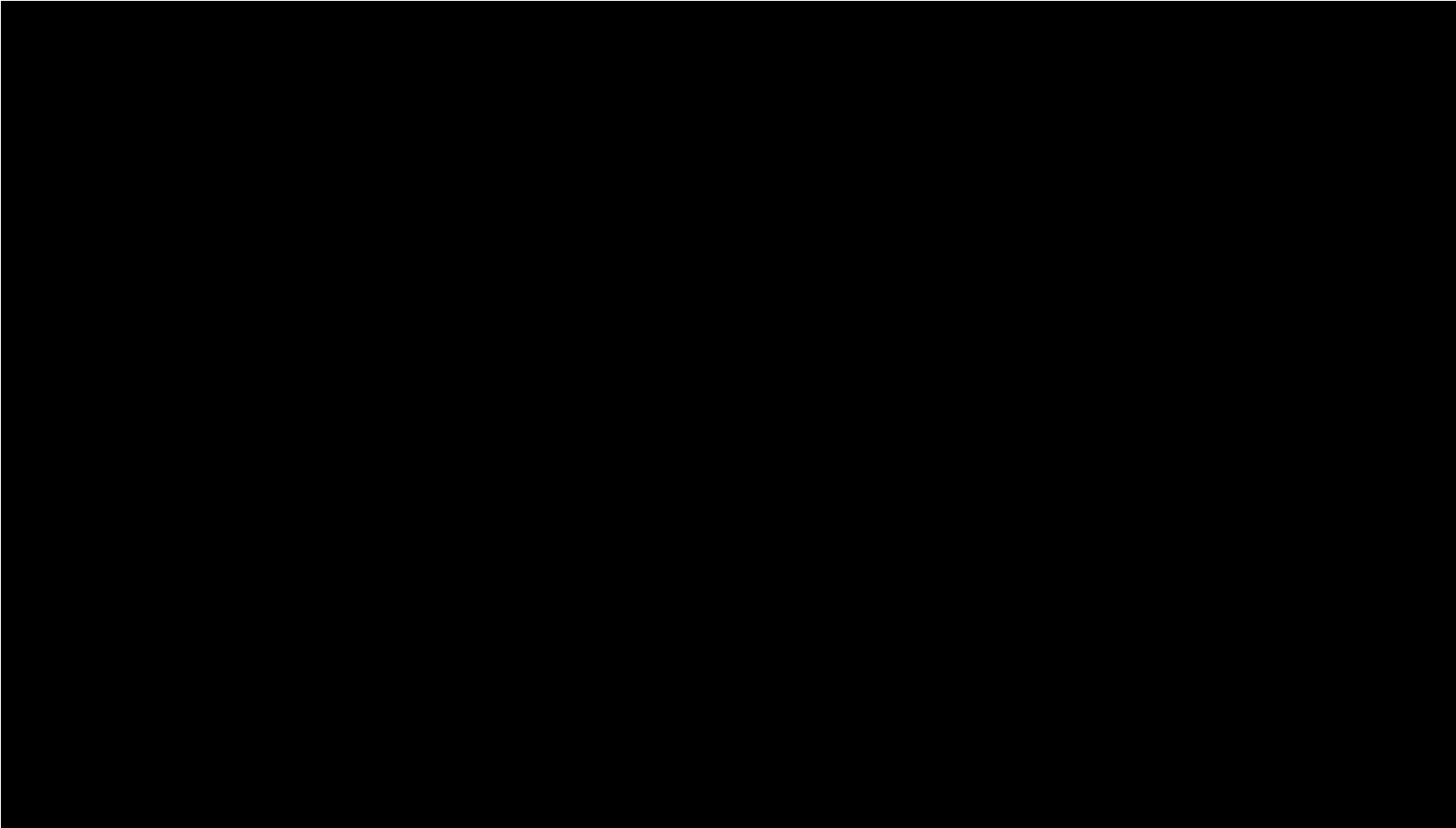
Notes:

- (1) Schedule 3.6
- (2) Schedule 3.4
- (3) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 4.1 - Aii



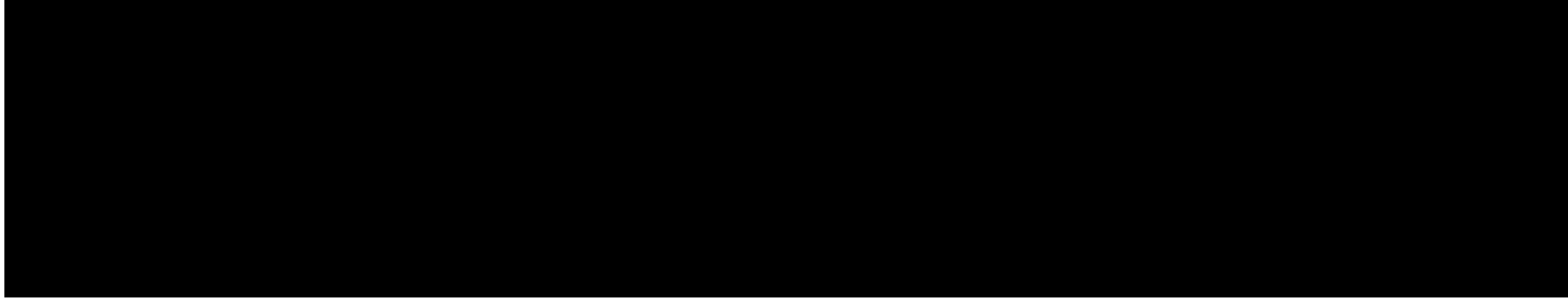
Notes:

- (1) Schedule 4.3 - Aii.
- (2) Schedule 4.4.
- (3) Schedule 4.2 - Aii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI

Schedule 4.2 - Aii



Notes:

- (1) Schedule 4.5.
- (2) Schedule 4.4.
- (3) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.
- (4) Schedule 2.11. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI
Schedule 4.3 - Aii



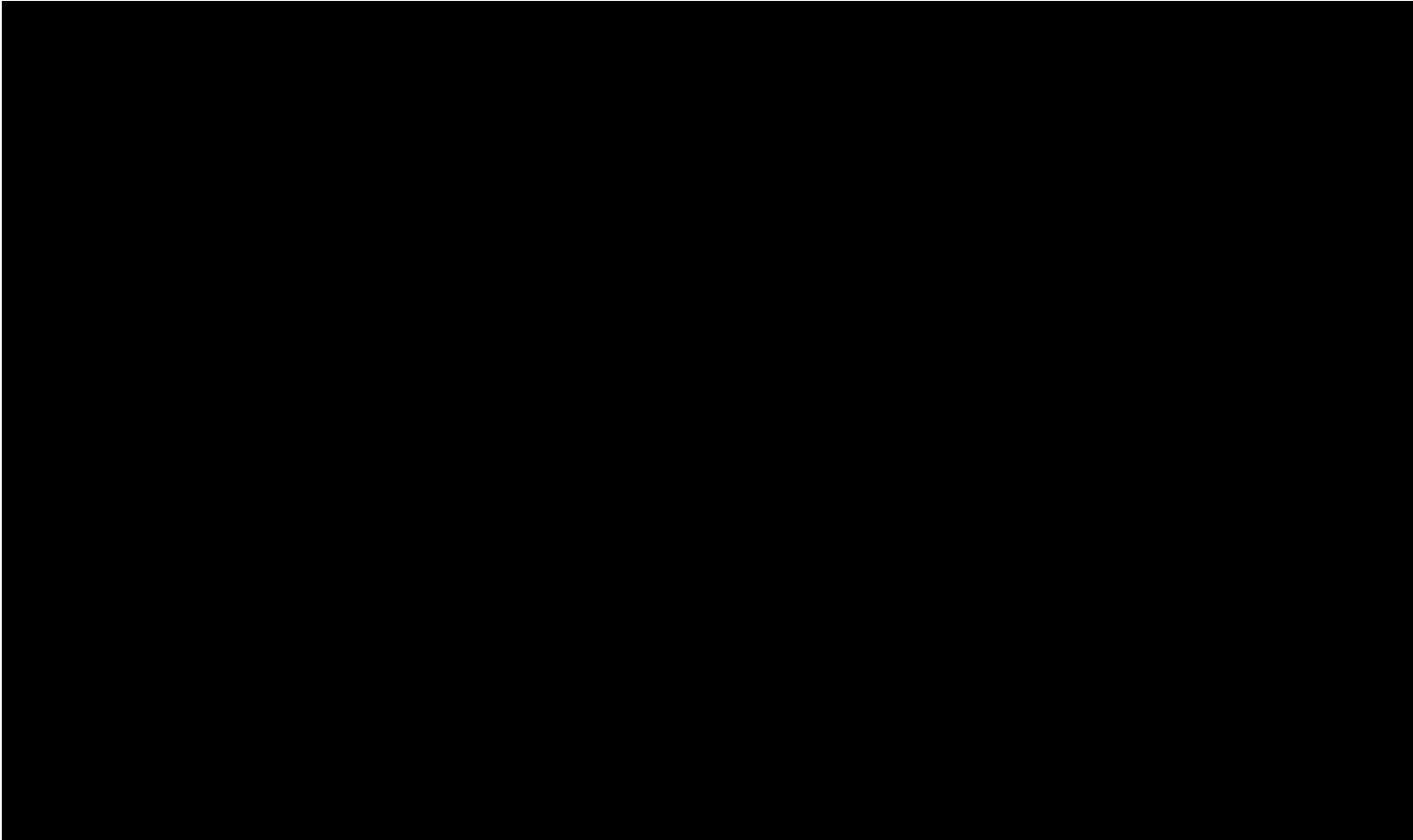
Notes:

- (1) Schedule 4.6
- (2) Schedule 4.4
- (3) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 2.1 - Bi



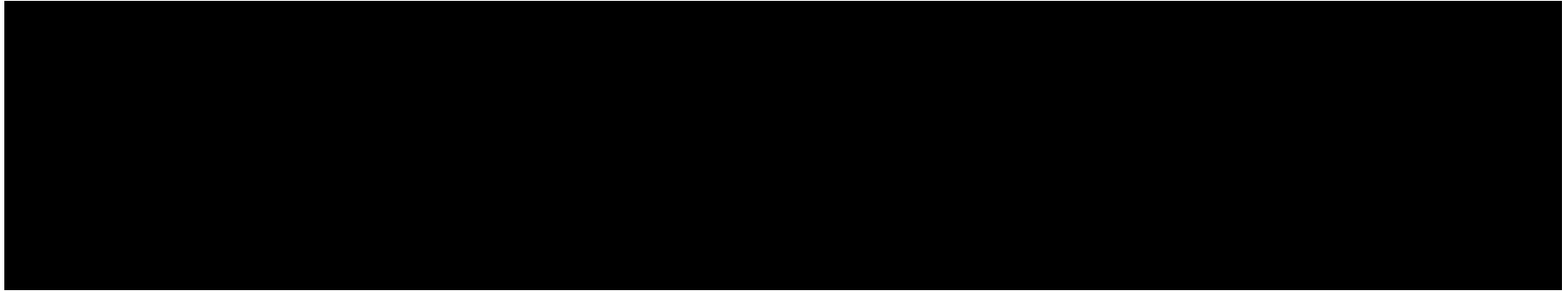
Notes:

- (1) Schedule 2.6 - B.
- (2) Schedule 2.4 - B.
- (3) Schedule 2.3 - Bi.
- (4) Schedule 2.2 - Bi.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2.2 - Bi



Notes:

(1) Schedule 2.5 - B

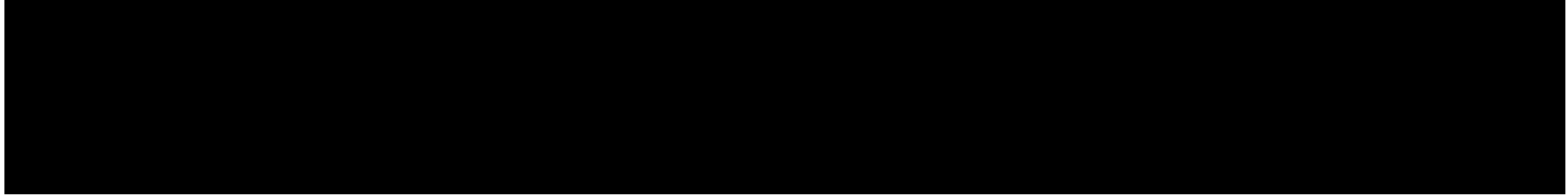
(2) GOOG-CABR-03635725, Tab: "Display - conversion "

(3) Schedule 2.11

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 2.3 - Bi



Notes:

(1) Schedule 2.6 - B

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Google's determination of the autobidding share of Google Display Ads attributable to conversion tracking during 2020 and 2021 is applied as a proxy for 2016-2019

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES- CHROME
Schedule 2.4 - B

Notes:

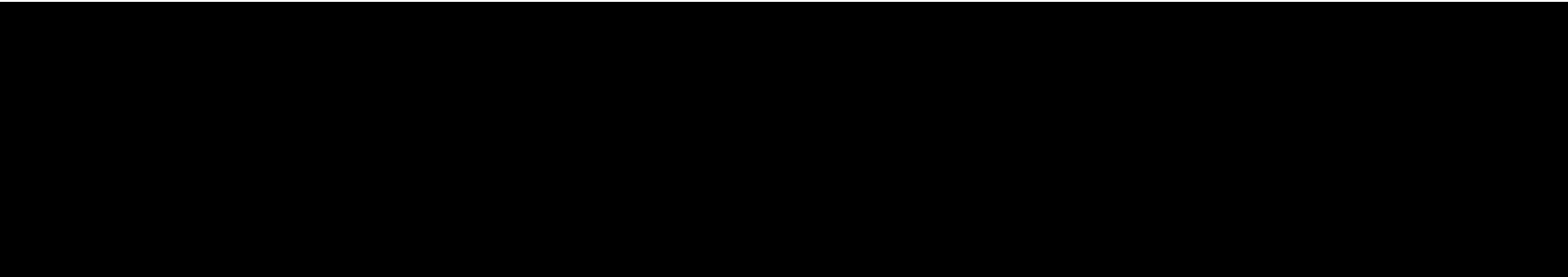
(1) Schedule 2.5 - B

(2) Schedule 2.7

(3) GOOG-CABR-04324934-944 at 939-940

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE - ADJUSTED FOR [REDACTED] IMPLEMENTATION - CHROME
Schedule 2.5 - B



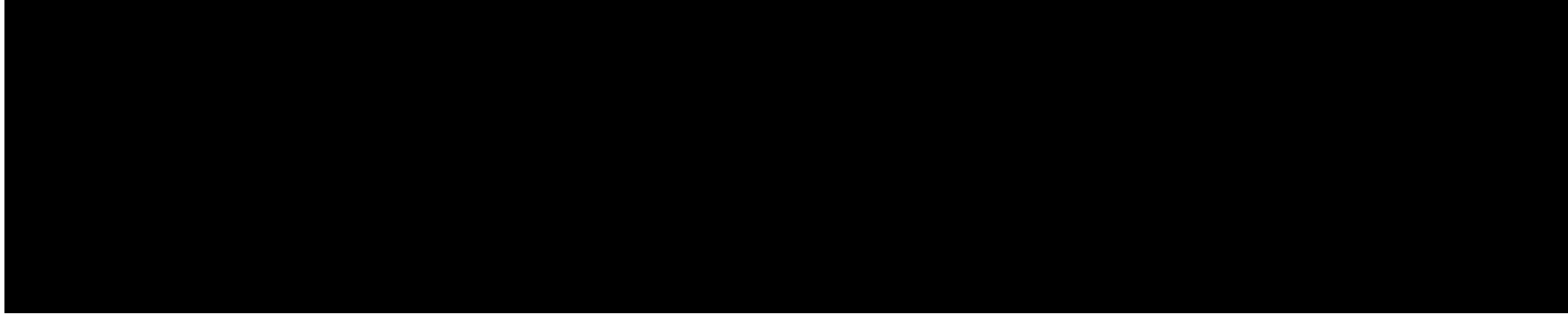
Notes:

- (1) Schedule 2.6 - B
- (2) 2020 per Schedule 2.10

Brown et al v. Google LLC et al.

DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - CHROME

Schedule 2 6 - B



Notes:

(1) Schedule 12 1

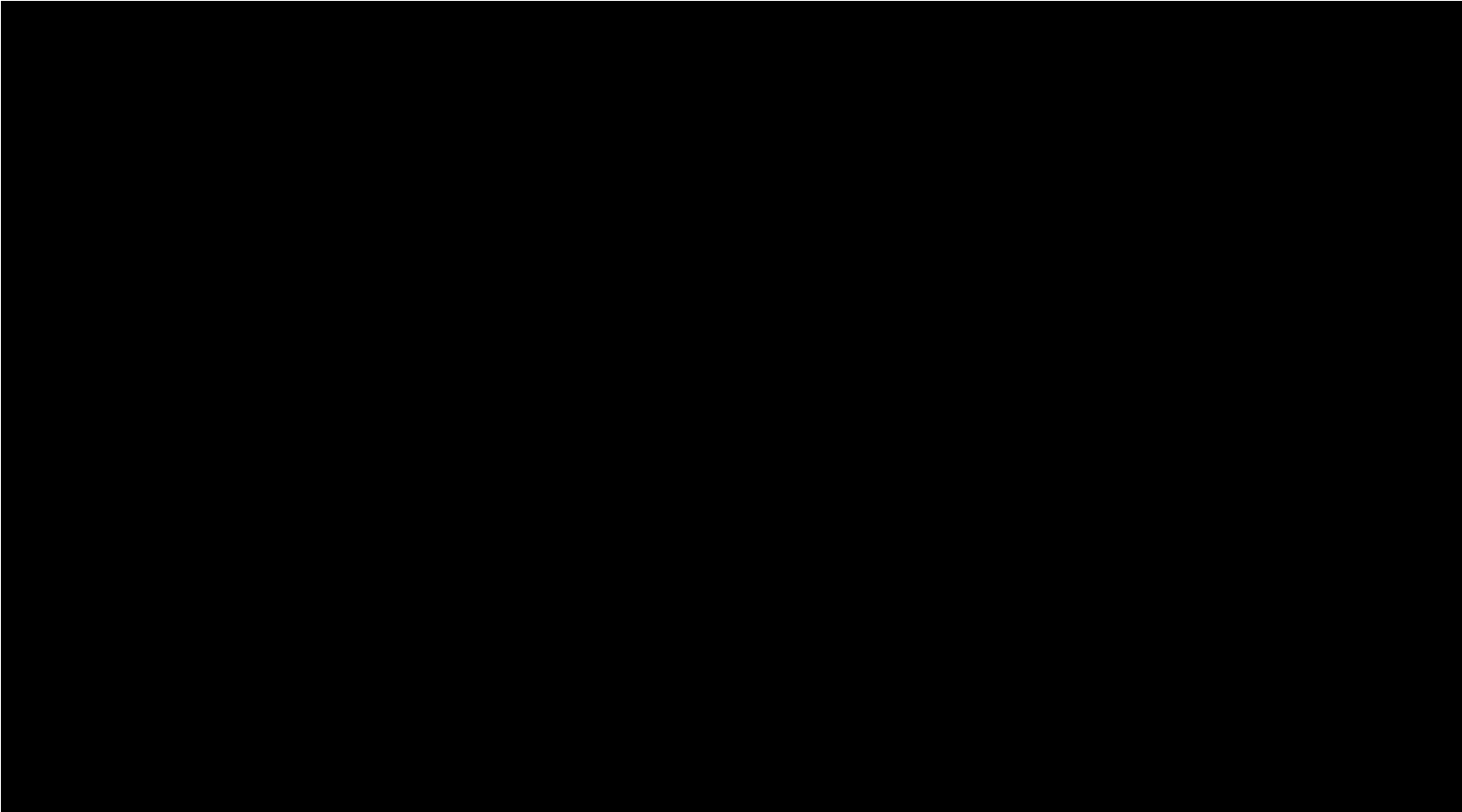
(2) Schedule 27 1

(3) Schedule 11 1

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 3.1 - Bi



Notes:

- (1) Schedule 3.6 - B.
- (2) Schedule 3.4 - B.
- (3) Schedule 3.3 - Bi.
- (4) Schedule 3.2 - Bi.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE

Schedule 3.2 - Bi



Notes:

(1) Schedule 3.5 - B.

(2) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.

(3) Schedule 2.11. Using Chrome data as a proxy.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE
Schedule 3.3 - Bi



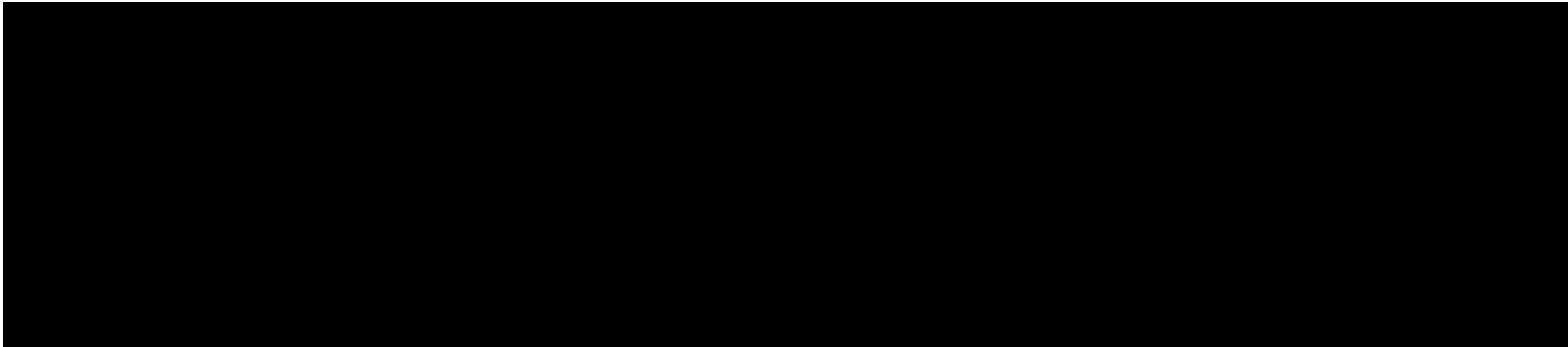
Notes:

(1) Schedule 3.6 - B

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - EDGE / IE
Schedule 3 4 - B

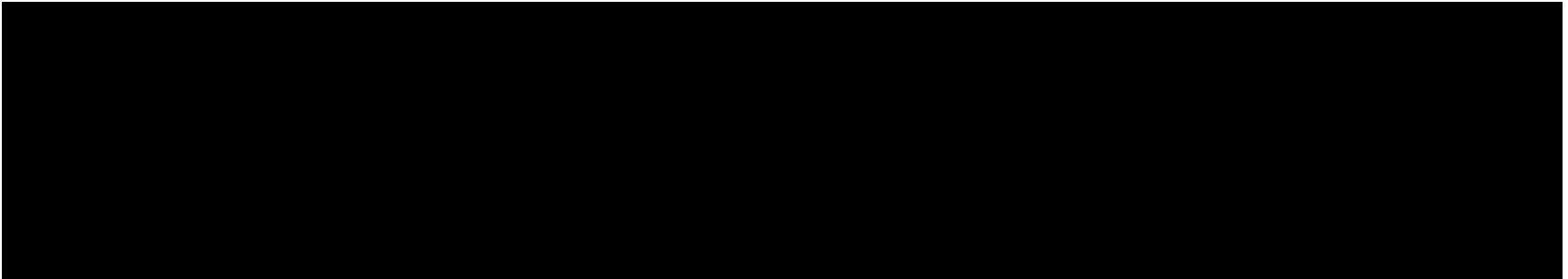


Notes:

- (1) Schedule 3 5 - B
- (2) Schedule 2 7 Using Chrome data as a proxy
- (3) GOOG-CABR-04324934-944 at 939-940 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE - ADJUSTED FOR MTP IMPLEMENTATION - EDGE / IE
Schedule 3 5 - B



Notes:

- (1) Schedule 3 6 - B
- (2) 2020 per Schedule 3 7

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - EDGE / IE

Schedule 3 6 - B



Notes:

(1) Schedule 12 1

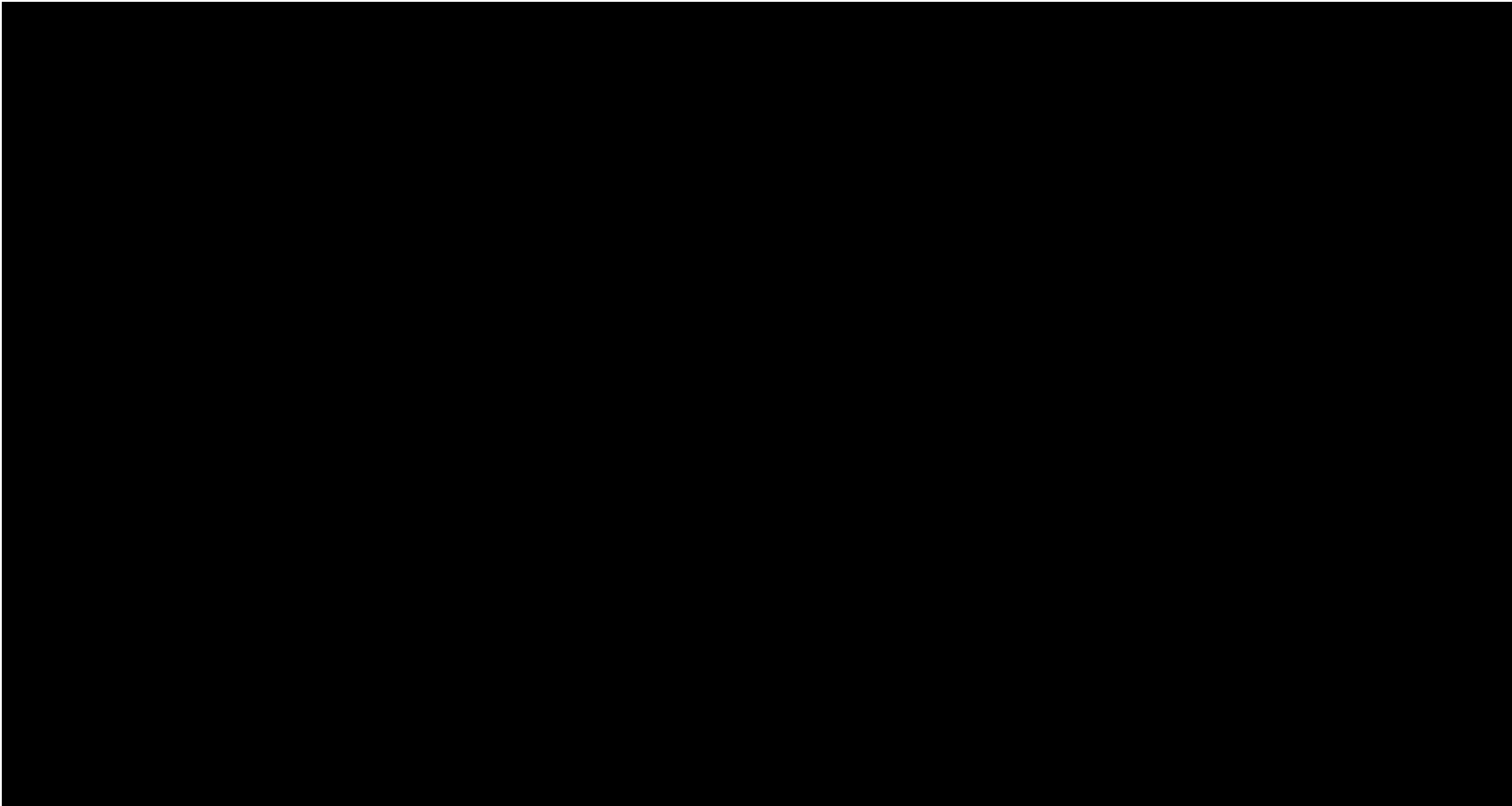
(2) Schedule 27 1

(3) Schedule 22 1

Brown et al v. Google LLC et al.

DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 4.1 - Bi

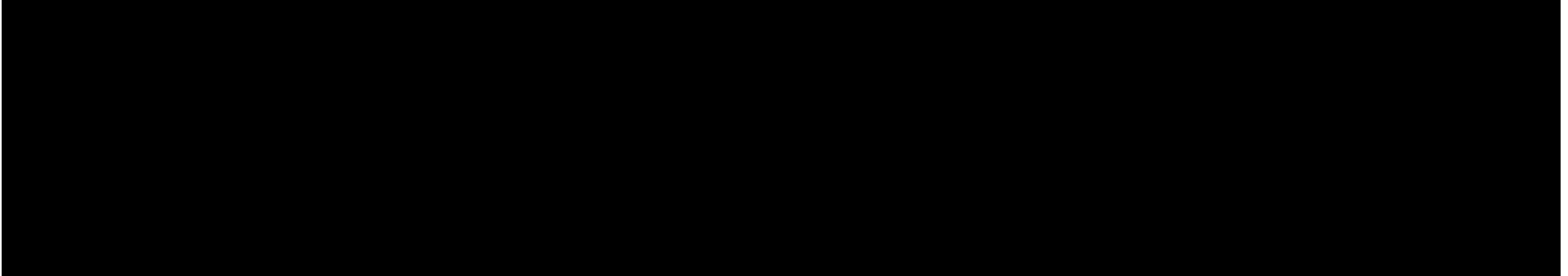


Notes:

- (1) Schedule 4.6 - B.
- (2) Schedule 4.4 - B.
- (3) Schedule 4.3 - Bi.
- (4) Schedule 4.2 - Bi.
- (5) Schedule 21.1.
- (6) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - SAFARI
Schedule 4 2 - Bi

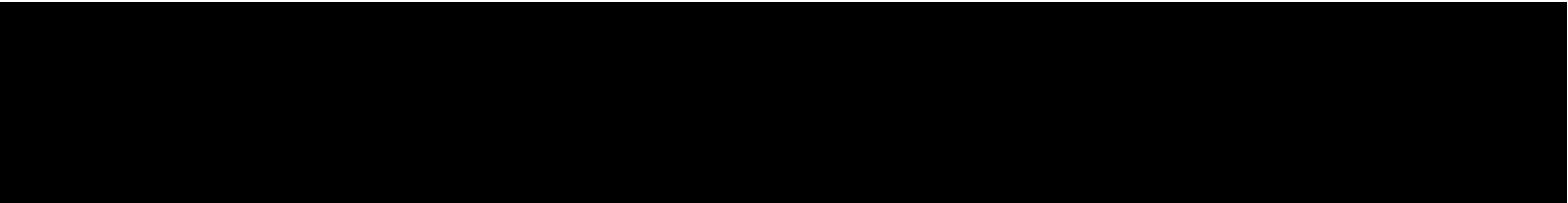


Notes:

- (1) Schedule 4 5 - B
- (2) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy
- (3) Schedule 2 11 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI
Schedule 4.3 - Bi



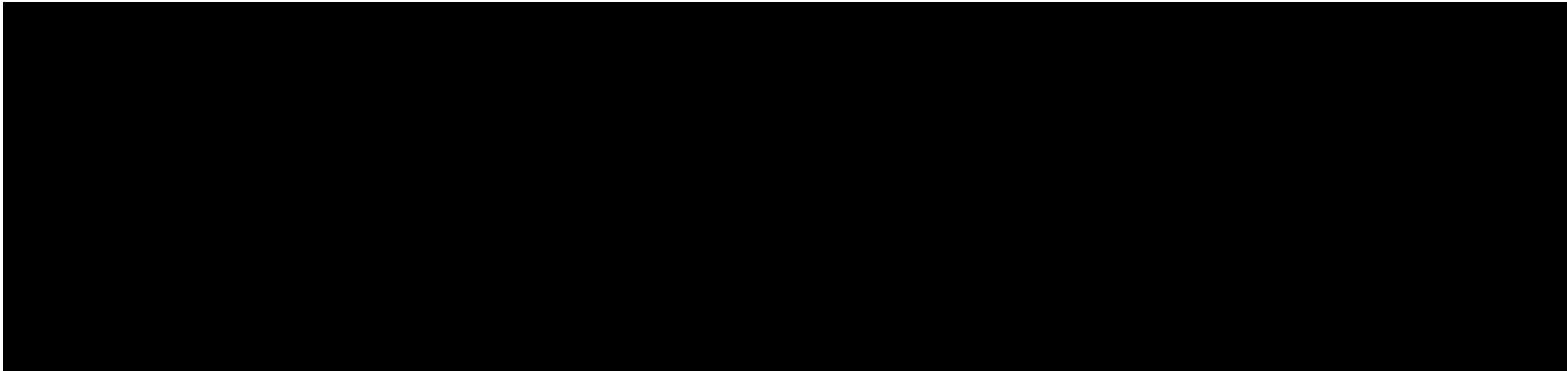
Notes:

(1) Schedule 4.6 - B

(2) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO PERSONALIZATION FROM TRAFFIC WITH 3P COOKIES - SAFARI
Schedule 4 4 - B



Notes:

- (1) Schedule 4 5 - B
- (2) Schedule 2 7 Using Chrome data as a proxy
- (3) GOOG-CABR-04324934-944 at 939-940 Using Chrome data as a proxy

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE - ADJUSTED FOR ITP IMPLEMENTATION - SAFARI
Schedule 4 5 - B



Notes:

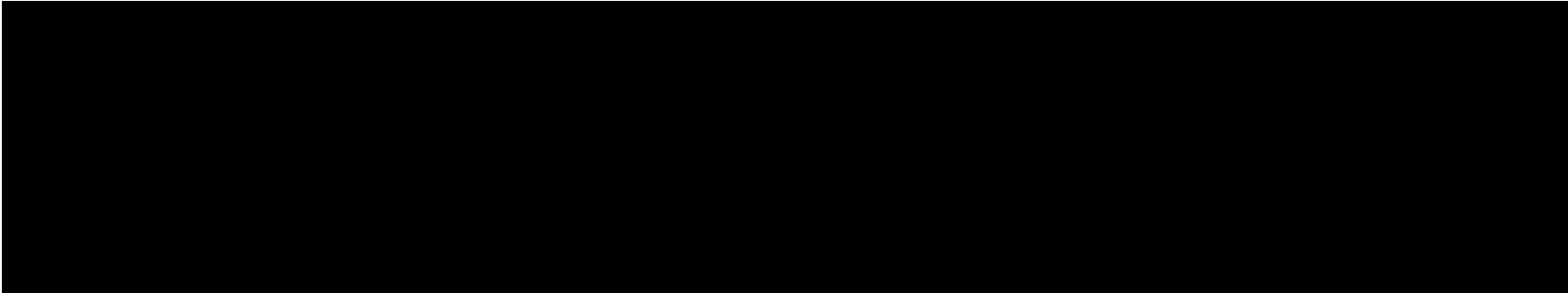
(1) Schedule 4 6 - B

(2) 2020 Schedule 4 7

Brown et al v. Google LLC et al.

DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE FROM ALL TRAFFIC - SAFARI

Schedule 4 6 - B



Notes:

(1) Schedule 12 1

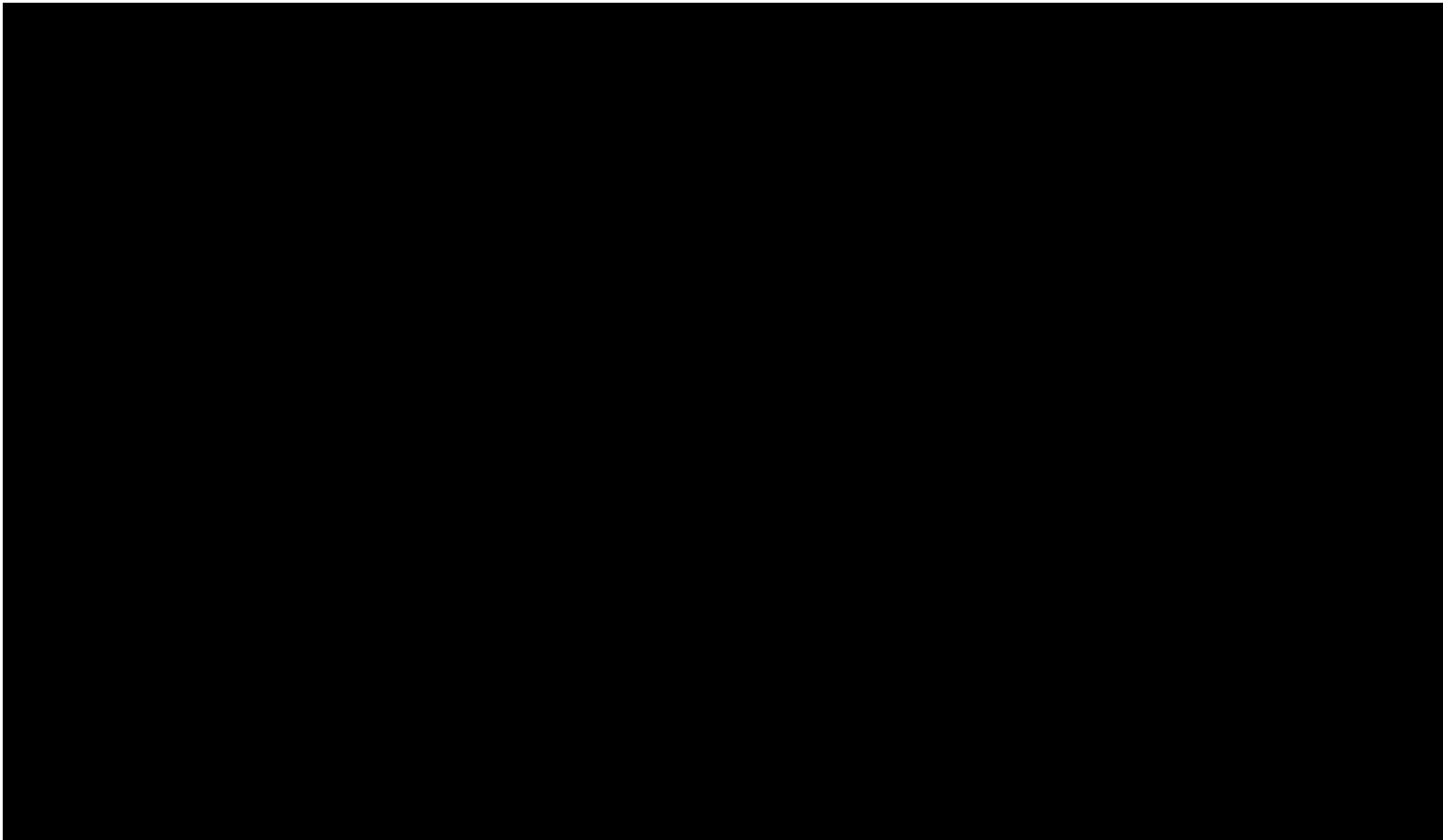
(2) Schedule 27 1

(3) Schedule 22 1

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DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - INCOGNITO - CHROME

Schedule 2.1 - Bii



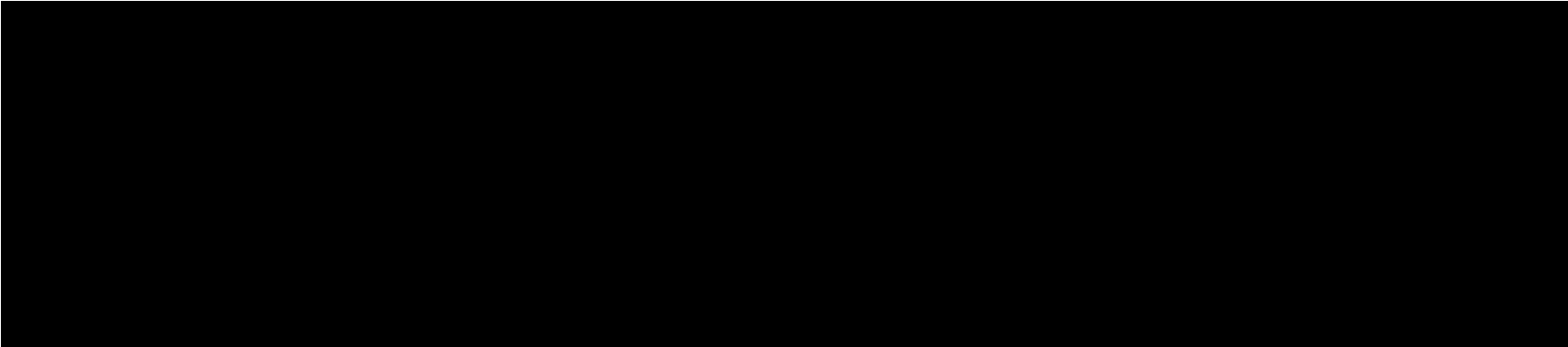
Notes:

- (1) Schedule 2.3 - Bii.
- (2) Schedule 2.4 - B.
- (3) Schedule 2.2 - Bii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

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INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - CHROME

Schedule 2.2 - Bii



Notes:

- (1) Schedule 2.5 - B
- (2) Schedule 2.4 - B
- (3) GOOG-CABR-03635725, Tab: "Display - conversion "
- (4) Schedule 2.11

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DISPLAY - INCOGNITO U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - CHROME

Schedule 2.3 - Bii



Notes:

(1) Schedule 2.6 - B

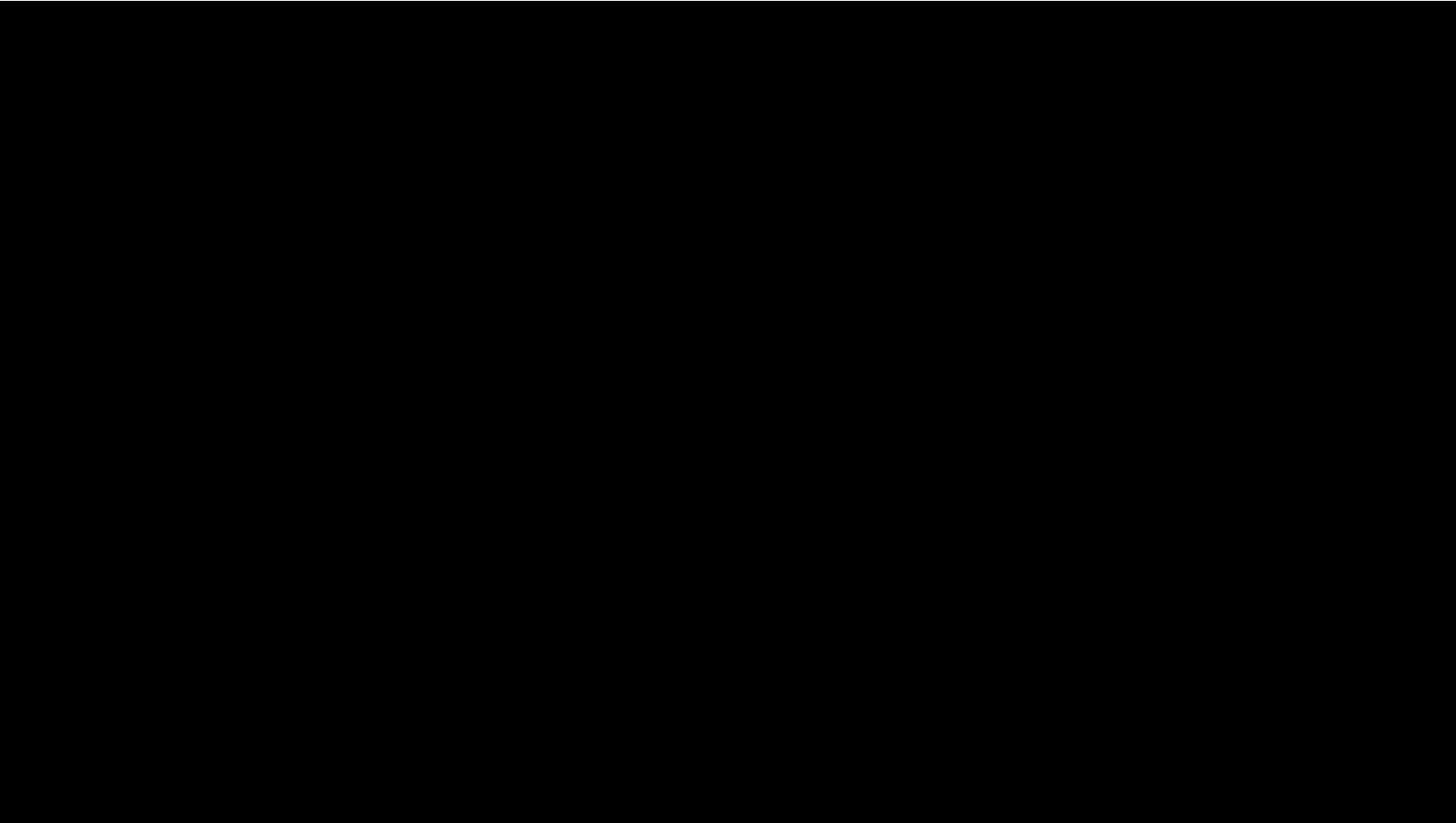
(2) Schedule 2.4 - B

(3) GOOG-CABR-03635725, Tab: "Display - conversion " Google's determination of the autobidding share of Google Display Ads attributable to conversion tracking during 2020 and 2021 is applied as a proxy for 2016-2019

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DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - EDGE / IE

Schedule 3.1 - Bii

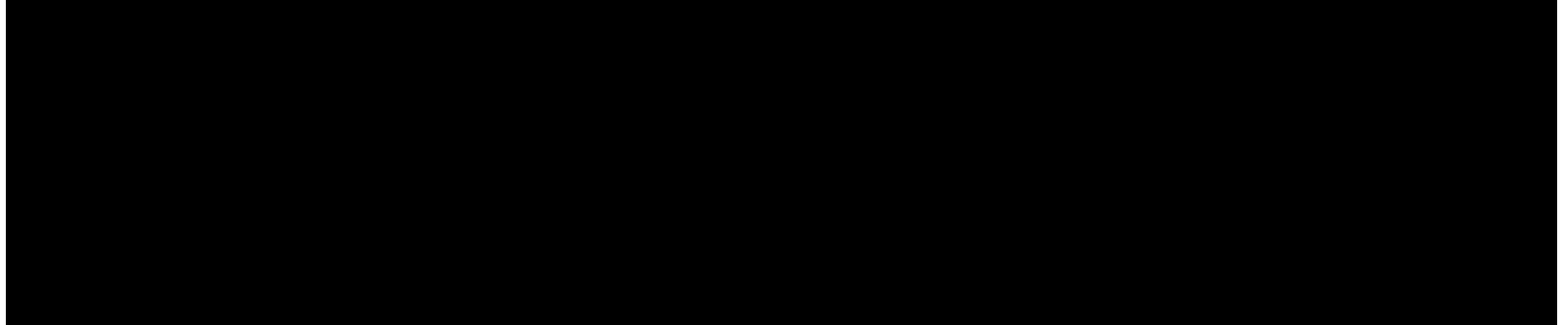


Notes:

- (1) Schedule 3.3 - Bii.
- (2) Schedule 3.4 - B.
- (3) Schedule 3.2 - Bii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

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DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM TRAFFIC WITH 3P COOKIES - EDGE / IE
Schedule 3.2 - Bii



Notes:

- (1) Schedule 3.5 - B
- (2) Schedule 3.4 - B
- (3) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy
- (4) Schedule 2.11 Using Chrome data as a proxy

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DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - EDGE / IE

Schedule 3.3 - Bii



Notes:

(1) Schedule 3.6 - B.

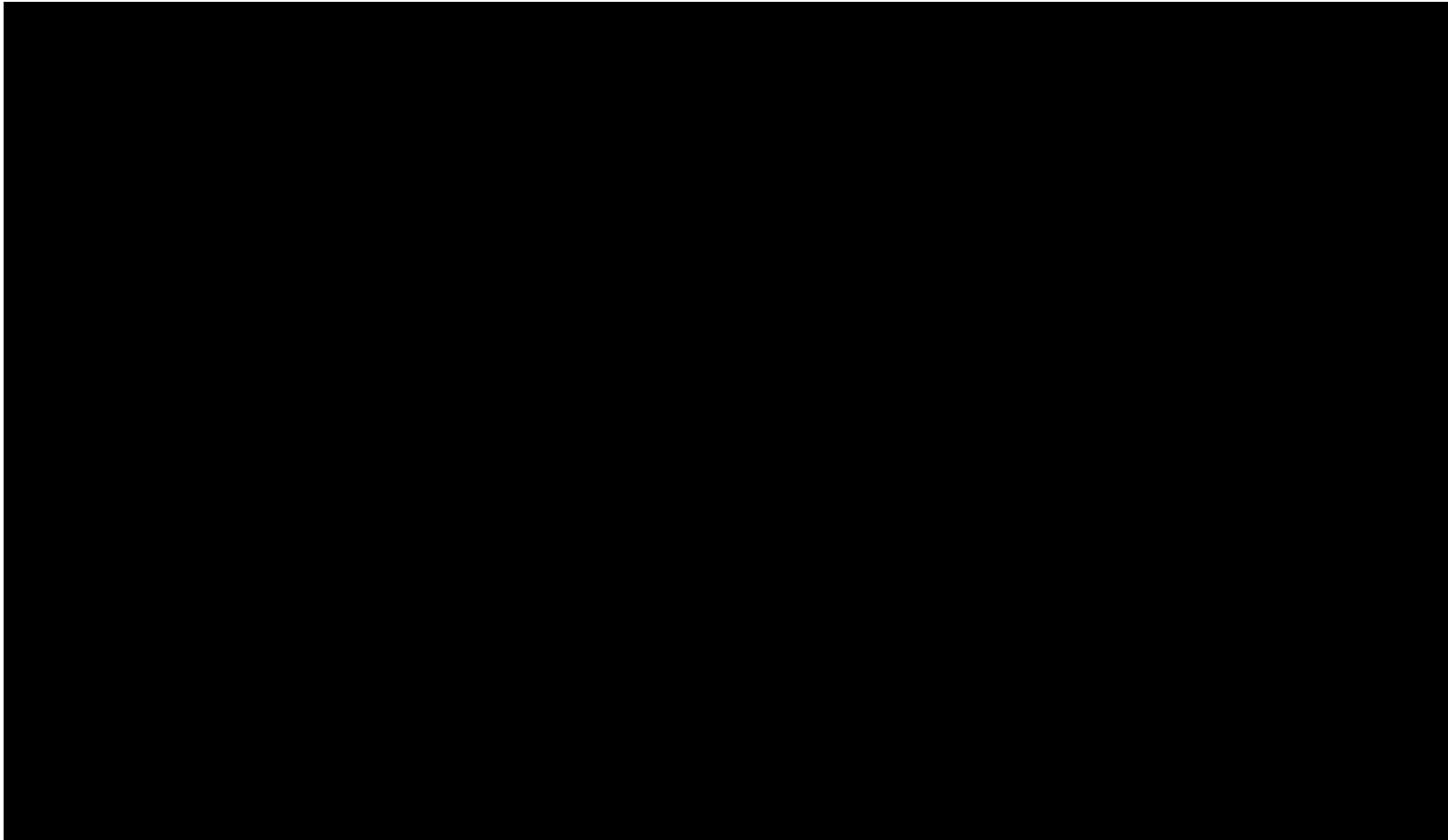
(2) Schedule 3.4 - B.

(3) GOOG-CABR-03635725, Tab "Display - conversion." Using Chrome data as a proxy.

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DISPLAY - SUMMARY OF POTENTIAL UNJUST ENRICHMENT BY LIABILITY SCENARIO - JUNE 1, 2016 TO DECEMBER 31, 2021 - PRIVATE BROWSING - SAFARI

Schedule 4.1 - Bii

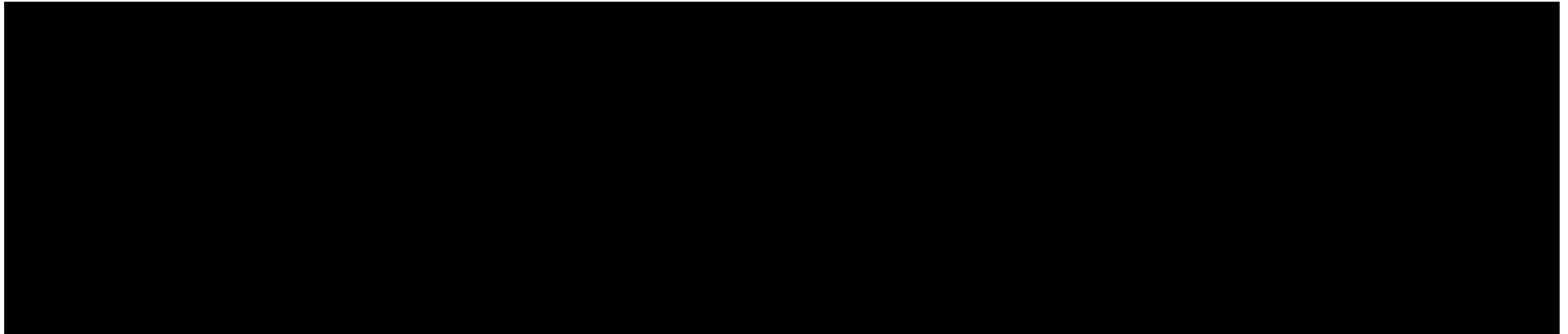


Notes:

- (1) Schedule 4.3 - Bii.
- (2) Schedule 4.4 - B.
- (3) Schedule 4.2 - Bii.
- (4) Schedule 21.1.
- (5) GOOG-BRWN-00035610-622 at 617. Report Section 7.2.

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Schedule 4.2 - Bii

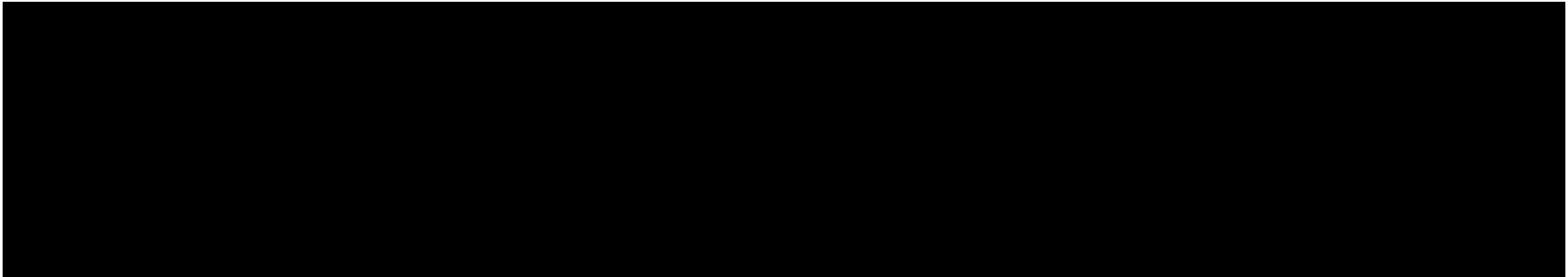


Notes:

- (1) Schedule 4.5 - B
- (2) Schedule 4.4 - B
- (3) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy
- (4) Schedule 2.11 Using Chrome data as a proxy

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DISPLAY - PRIVATE BROWSING PORTION OF GOOGLE U.S. DISPLAY ADS REVENUE ATTRIBUTABLE TO CONVERSION TRACKING FROM ALL TRAFFIC - SAFARI
Schedule 4 3 - Bii



Notes:

- (1) Schedule 4 6 - B
- (2) Schedule 4 4 - B
- (3) GOOG-CABR-03635725, Tab: "Display - conversion " Using Chrome data as a proxy